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

GB/T 14096-2025

Replacing GB/T 14096-2008

Fuel injection pump test stand - Testing method

喷油泵试验台 试验方法

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Foreword

This document is in accordance with GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. This document replaces GB/T 14096-2008 "Test Methods for Fuel Injection Pump Test Bench".

Compared with GB/T 14096-2008, the only differences are in the structural design. Aside from integration and editorial changes, the main technical changes are as follows:

- a) Added terms and definitions (see Chapter 3);
- b) The test conditions for the fuel injection pump test bench have been increased, including the test oil, test conditions, test injectors, and test high-pressure fuel lines. Test oil temperature requirements, measuring instruments, etc. (see Chapter 4);
- c) Safety inspection requirements for test methods have been added (see 5.1);
- d) The speed requirements for the average speed fluctuation test of the fuel injection pump test bench have been changed (see 5.2.1, 3.1.1 in the.2008 version);
- e) The requirements for determining the moment of inertia of the flywheel have been changed (see 5.4, 3.3 in the.2008 edition);
- f) The description of the multi-cylinder injection pump has been changed (see 5.10.1, 3.9.1 in the.2008 version);
- g) The formulas for volume zero-point error, etc., have been revised (see 5.10.3, 3.9.3 in the.2008 edition);
- h) Increased oil temperature control requirements for the fuel injection pump test bench (see 5.13);

1 Scope

GB/T 14096-2025 is the Chinese national standard on fuel injection pump test stand - testing method, in the field of energy and heat transfer engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 February 2026. Classification: ICS 27.020, CCS J 94. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the test conditions for a diesel engine fuel injection pump test bench and describes the corresponding test methods. This document applies to testing on a diesel engine fuel injection pump test bench.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 3821 Cleanliness limits and test methods for small and medium power internal combustion engines

GB/T 5330 Industrial Woven Square Hole Screen

GB/T 8029 Diesel Engine Injection Pump Calibration Oil

GB/T 10826.1 Vocabulary of Fuel Injection Devices Part

3 Terms and Definitions

The terms and definitions defined in GB/T 10826.1 and JB/T 9734, as well as the following terms and definitions, apply to this document.

3.1 Specialized equipment for testing, adjusting, and repairing diesel engine fuel injection pumps.

4 Test conditions

4.1 Test Oil The test oil should conform to the calibration oil specified in GB/T 8029 or the No. 0 automotive diesel oil specified in GB 19147. The test bench's fuel system should... It features multi-stage filtration with a final filtration accuracy of 5 μ m. The test bench's oil tank should be easy to clean and change; it is advisable to clean the oil tank and oil every 50 injection pumps tested. Clean the filter and change the oil.

4.2 Test Conditions

4.2.1 Indoor temperature. 0°C~30°C; relative humidity. 20%~80%.

4.2.2 Test voltage. 380V $\pm$ 38V.