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

GB/T 14649-2025

Replacing GB/T 14649-2005

Test method for marine auxiliary boiler property

船用辅锅炉性能试验方法

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document supersedes GB/T 14649-2005 "Test Methods for Performance of Marine Auxiliary Boilers". This document is consistent with GB/T 14649-2005. Aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The scope of application has been changed (see Chapter 1, Chapter 1 of the.2005 edition);

---The general requirements for pre-experiment data preparation have been revised (see 4.2,

3.2 in the.2005 edition);

- The thermal test requirement at 110% rated load has been removed (see 4.1 in the.2005 edition);
- Added explanations regarding the thermal testing of the exhaust gas portion of waste gas boilers and combined fuel oil waste gas boilers (see 5.1);
- The test methods for automatic and manual boiler controls have been revised (see 5.4, 4.4 in the.2005 version);
- The formula for calculating the positive balance thermal efficiency of saturated steam boilers has been modified (see 6.2.4, 5.2.4 in the.2005 version);
- The relevant content of the General Rules for Boiler Thermal Testing Methods has been revised (see A.1, A.1 of the.2005 edition);
- The requirements for preparation work for boiler thermal testing have been revised (see A.2,.2005 edition of A.2);

1 Scope

GB/T 14649-2025 is the Chinese national standard on test method for marine auxiliary boiler property, in the field of shipbuilding and marine structures. 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 29 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2026. Classification: ICS 47.020.20, CCS U 41. 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 general requirements, test methods, and data acquisition and processing for performance testing of marine auxiliary boilers. This document applies to natural circulation steam boilers with a design pressure not exceeding

2.5 MPa and a working medium of water, as well as boilers with a medium outlet temperature not exceeding [a certain value]. Performance test of hot water boilers (hereinafter referred to as boilers) with temperatures exceeding 120°C.

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 10180-2017 Test Procedure for Thermal Performance of Industrial Boilers CB/T 3863 Test Methods for Performance of Oil Burners for Marine Boilers CB/T 4428 Technical Specifications for Marine Auxiliary Boiler Control Equipment

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 General Requirements

4.1 The items and number of tests for the type test, factory test and mooring (sea) test of the boiler are shown in Table 1. Table

1 Test Items and Number of Tests Test Project Number of trials Type test, factory test, mooring (sea) test Thermal Experiment 1 - safety valve Take-off, closing Screen Manual pull Fuel injection quantity 3 2 - Automatic control Water supply Combustion process Pressure (for steam boilers only) Temperature (for hot water boilers only) Security Protection