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

GB/T 10820-2011

Replacing GB/T 10820-2002

Thermal efficiency and test methods of boilers for daily life

生活锅炉热效率及热工试验方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 10820-2002 "Life boiler thermal efficiency and thermal test methods." This standard compared with GB/T 10820-2002 main changes as follows:

- Adjust the scope of application, and scope of the "Life boiler economy" are basically the same standard, and retained the electric heating boilers and vacuum phase Change the content of the hot water boiler;
- Added "Terms and Definitions" chapter;
- Canceled living conditions of the boiler thermal efficiency assessment;
- Clear minimum thermal efficiency requirements of this standard are for the new factory boiler;
- Revised minimum values of thermal efficiency, increase the exhaust gas temperature, excess air ratio, ash carbon content and the outer surface of the furnace temperature four parameters The number of the control value;
- Increasing the thermal test items, only the original standard was changed to positive balance test positive balance mainly to increase the exhaust gas temperature, excess Air ratio, ash carbon content and the outer surface of the furnace temperature four test items;
- Stable thermal conditions required for the test requirements of the time, the original "oil, gas boilers and electric heating boiler less than 2h" repair The words "oil, gas boilers and electric heating boiler less than 1h", the coal-fired boiler to burn coal-fired boilers and into the hand chain of coal-fired boiler Furnace respectively provisions and increased its coal boiler regulations;
- Increase the contents of the previous electric heating boiler thermal test security check;
- In order to ensure stability during the test, an increase of "test during the test shall not be responsible for changes in other testing personnel should not Change ' Regulations;
- In every condition test duration to increase the "coal boilers should be not less than 6h"

provisions, and electric heating boiler each test condition Test duration time from 2h to 1h;

--- Increasing the exhaust gas temperature measurement method, excess air ratio, ash carbon content and the outer surface temperature of the furnace four parameters;

--- Increased correcting discrepancies when steam or water temperature with a predetermined design parameters;

--- Increasing the sodium ion concentration and conductivity measurement of steam wetness method;

1 Scope

GB/T 10820-2011 is the Chinese national standard on thermal efficiency and test methods of boilers for daily life, 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 29 September 2011 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 March 2012. Classification: ICS 27.060.30, CCS F04. 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 standard specifies the factory boiler thermal efficiency and thermal test methods live coal, oil, gas and electric heating boiler life. This standard applies to the following coal, oil and gas as heating fuel or electricity, with water as the medium of stationary boiler life.

a) less than or equal to the rated working pressure of 1.0MPa and rated evaporation less than 1t/h of steam boilers;

b) rated thermal power less than 0.7MW of pressure hot water boiler;

c) pressure hot water boiler (hereinafter referred to as atmospheric pressure boiler) and hot water boilers vacuum phase transition (hereinafter referred to as vacuum boiler). This standard does not apply to the waste heat boiler and boiler water as a medium.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. GB 252 ordinary diesel

GB 474 coal sample preparation

GB/T 1576 industrial boiler water quality

GB/T 2900.48 Electrotechnical terminology boiler

GB 5749 drinking water health standards

GB 13271 boiler air pollutant emission standards SH/T 0356 fuel oil

3 Terms and Definitions

GB/T 2900.48 define the following terms and definitions apply to this document. For ease of use, repeat the following list GB/T in 2900.48 Certain terms and definitions.

3.1 Life boiler boilersfordailylife Can provide some parameters of steam or hot water, mainly for heating, bath, dining and other thermal equipment service life.

3.2 Boiler heat input boilerheatinginput Enter the unit time to heat a boiler fuel or electric heating means heat input to the boilers.

3.3 Boiler for heat boilerheatingoutput Unit time by steam, heat water supplied by the boiler and the boiler water out into the heat of the difference.

3.4 Boiler thermal efficiency boiler efficiency The percentage of heat input to the boiler heat boiler for the same time.