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

GB/T 10863-2011

Replacing GB 10863-1989

Thermal test method for gas pass heat recovery boiler

烟道式余热锅炉热工试验方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 10863-1989, compared with the GB/T 10863-1989, the main changes are as follows:

- Expanding the scope, not only for low-pressure waste heat boiler can also be used for high-pressure waste heat boiler (1989 Edition Chapter 1; Excerpts Chapter 1);
- The test conditions and its provisions were refined (1989 Edition Chapter 4; Chapter 5,6,7 this edition); The sampling time
- calculate the heat output of superheated steam boiler, sewage, reducing water, steam as well as for personal use with a reheat unit situation Conditions are taken into consideration [1989 Edition formula (10); Excerpts of the formula (12)]; When saturated steam boiler
- calculation takes into account the sample water heat output of the heat [1989 Edition formula (11); Excerpts of the formula (13)];
- Fixed low calorific value gaseous fuel formulas [1989 Edition formula (15); Excerpts of the formula (17)];
- Fixed combustible gas is calculated incomplete combustion heat loss [1989 Edition formula (18); Excerpts of the formula (20)];
- Fixed flue gas volume flow formulas [1989 Edition formula (23), equation (24); Excerpts of the formula (25), equation (26)];
- Fixed amount of air leakage into the formula of [1989 Edition formula (32); Excerpts of the formula (34)];
- Increased steam flow measurement density correction [Excerpts of the formula (37)];
- Referenced standard terminology, symbols, formulas, etc. to coordinate with the relevant

professional standards. This standard by the National Standardization Technical Committee of the boiler pressure vessel (SAC/TC262) and focal points. This standard was drafted. Hangzhou Boiler Group Co., Ltd., Zhejiang Special Equipment Inspection and Research Institute, Shanghai Power Equipment provided Meter Institute. The main drafters of this standard. Wang Zhong, Jiang Jianmin, Yu Ying, a Defang, ECHNOLOGY Shugu Ying. This standard replaces the standards previously issued as follows:

--- GB/T 10863-1989. Flue waste heat boiler thermal test methods

1 Scope

GB/T 10863-2011 is the Chinese national standard on thermal test method for gas pass heat recovery boiler, 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 30 December 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 July 2012. Classification: ICS 27.060.30, CCS J98. 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 flue waste heat boiler thermal test methods, as flue waste heat boiler performance and acceptance tests of the product type in accordance with. This standard applies to water as the working fluid waste heat boiler flue. This standard does not apply to shell and tube heat recovery boiler.

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 cited documents without a date. The latest version (including any amendments) applies to this document.

GB/T 2900.48-2008 Electrotechnical terminology boiler

3 Terms and Definitions

GB/T 2900.48-2008 defined and the following terms and definitions apply to this document.

3.1 Waste heat boiler flue gas pass heat recovery boiler Use of waste heat medium (a variety of industrial process waste gas, waste or waste) sensible heat contained in or (and) after the burning of combustible substances Heat (necessary, to add afterburning), and is arranged in the flue of the heating surface heat exchange to generate steam or hot water

boiler, a structure similar to Water tube or shell type boilers.

3.2 Heat input Q_{in} The total heat input per unit time HRSG heat resources.

3.3 Effective heat output Q_{out} Total calories per unit time in the boiler working fluid absorbed, including heat and water vapor absorption, as well as sewage water and steam consumption for personal use Consumption of calories.

3.4 Calorific net calorific value It refers to combustible materials per unit volume or unit mass of waste heat contained under certain conditions, complete combustion heat released in the buckle In addition to heat water vapor condenses into water after the latent heat of vaporization obtained.

3.5 Reference temperature T_{ref} To calculate the energy balance of the boiler heat input and the heat loss to the determined threshold temperature.

3.6 Waste heat utilization η Effective heat output accounted for the percentage of heat input, which represents the formula.