

ICS 27.060.30

CCS Q 99



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

GB/T 33840-2025

Replacing GB/T 33840-2017

General technical requirements for water jacket furnaces

水套加热炉通用技术要求

Issued on: April 25, 2025

Implemented on: November 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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 is required.

This document replaces GB/T 33840-2017 "General Technical Specifications for Water Jacket Heating Furnaces". Compared with GB/T 33840-2017, except for the structure In addition to adjustments and editorial changes, the main technical changes are as follows.

- a) Added the term and definition of "rated working pressure" (see 3.9);
- b) The term and definition of "exhaust temperature" have been deleted (see 3.11 of the 2017 edition);
- c) The provisions for selecting the nominal diameter of the water jacket heating furnace have been deleted (see 4.2.3 of the 2017 edition);
- d) Added the model examples of water jacket heating furnaces (see 5.1);
- e) The fuel type code has been modified (see 5.4, Table 3 of the 2017 edition);
- f) Added the requirements for heat exchange tube materials when the heated medium is an acidic medium (see 6.1.5);
- g) Added requirements for water quality and water treatment equipment for water jacket heating furnaces (see 7.1.3);
- h) Added the initial emission concentration requirements for water jacket heating furnaces (see 7.1.4);
- i) Added the requirement that the design unit of the water jacket heating furnace should clearly specify the model or main technical parameters of the burner (see 7.1.5);
- j) Modified the furnace insulation requirements (see 7.1.6, 4.2.6 of the 2017 edition);
- k) Added the typical structure diagram of water jacket heating furnace (see 7.2.1);
- l) Added the installation requirements for atmospheric connecting pipes for normal pressure water jacket heating furnaces and vacuum pressure control devices for negative pressure

water jacket heating furnaces (see 7.2.9);

m) Added the typical structural diagram of heat exchange tubes (see 7.2.16);

n) The calculation formula for the bend (or elbow) of the heat exchange tube has been modified (see 7.3.8, 7.3.9 of the 2017 edition);

o) Added the provisions for selecting the additional thickness of heat exchange tubes (see 7.3.9);

p) Modified the material substitution approval process (see 8.1.4, 8.1.5 of the 2017 edition);

q) The requirements for mechanical properties test of water jacket heating furnaces have been deleted (see 10.3 of the 2017 edition);

r) The requirements for the qualification of the water jacket heating furnace installation unit and the notification before installation (see 9.1 of the 2017 edition) have been deleted.

9.1 and 9.2 are merged into 10.1 (see 10.1, 9.1 and 9.2 of the 2017 edition);

s) Added requirements for antifreeze and rain and snow protection measures for water jacket heating furnaces installed outdoors (see 10.1.3);

t) Added the requirement for users to regularly monitor the quality of boiler water and feed water (see 10.3.6);

u) Added requirements for air pollutant emissions from water jacket heating furnaces (see 10.3.7);

v) Added the requirements for selecting the flow channel diameter of the safety valve when the water temperature is not less than 100°C (see 11.2.3);

w) Modified the selection requirements for pressure gauge accuracy grade (see 11.3.2, 11.3.2 of the 2017 edition);

x) Added the requirements for the minimum number and type of water level gauges installed (see 11.4.1);

y) Added the selection requirements for anti-frost level gauges when used outdoors in cold regions (see 11.4.2);

z) The provision that the water level gauge should be stopped and replaced when it exceeds the maintenance period has been deleted (see 11.4.4 of the 2017 edition);

aa) Added the requirement that the burner manufacturer (or distributor) should provide a type test certificate (see 12.2).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for

Combustion Energy Saving and Purification Standardization (SAC/TC441).

This document was drafted by: Anhui Special Equipment Testing Institute, University of Science and Technology of China, Borite Thermal Equipment Co., Ltd., Bengbu Tianyi Boiler Manufacturing Co., Ltd., Yingkou Boiler Pressure Vessel Inspection and Research Co., Ltd., Chongqing Huachuan Oil Construction Equipment Manufacturing (Group) Co., Ltd.

Co., Ltd., Panjin Chentong Boiler Manufacturing Co., Ltd., PetroChina Liaohe Engineering Co., Ltd., Anhui Quality and Standardization Research Institute, Shandong Wanbang Stone Oil Technology Co., Ltd., Shandong Luneng Special Equipment Inspection and Testing Co., Ltd., Shandong Xilong Petroleum Equipment Co., Ltd., China Petroleum Tian Daqing Special Equipment Inspection Center of Natural Gas Co., Ltd., Daqing Special Equipment Inspection Institute, Dongying Chenggong Petroleum Technology Co., Ltd.

Company, Jiangsu Kesheng Intelligent Equipment Co., Ltd., Anhui Product Quality Supervision and Inspection Institute, and Wuhu Special Equipment Inspection Institute.

The main drafters of this document are: Xia Hongwei, Yang Bingying, He Liqun, Zhang Fengan, Xu Li, Zhang Wenqiu, Han Peng, Yang Jie, Zhang Haitao, Meng Fanling, Pei Zhaohua, Dong Kai, Wang Shaoyou, Wang Weiguo, Cui Xiaodong, Wan Jun, Cheng Zhiqiang, Lin Heyong, Tang Haibo, Cao Shixing, Tang Yuming, Liu Cunxin, Wang Zailiang, Zhang Quankui, Cheng Wenqiang, Ge Dazhong, and Wu Shaojun.

This document was first published as GB/T 33840-2017 in 2017 and this is the first revision.

General technical requirements for water jacket heating furnaces

1 Scope

This document defines the terms and definitions of water jacket heating furnaces, describes the basic parameters, model compilation method, and specifies materials, design, manufacturing, General technical requirements for inspection and testing, installation, commissioning and use, safety accessories and instruments, and combustion equipment and systems.

This document is applicable to the use of solid, liquid or gas as fuel, the rated working pressure of the water jacket is less than 0.1MPa and the maximum working temperature The temperature is less than 120°C, the crude oil or its mixture is heated by the water in the water jacket, and the maximum working temperature of the heated medium in the heat exchange tube is lower than the standard boiling point Water jacket heating furnace.

This is used as a reference when other media are inside the heat exchange tubes of the water jacket heating furnace.

2 Normative references

GB/T 151

GB/T 699

GB/T 713.1

GB/T 713.2

GB/T 3087

GB/T 3274

GB 4053.3

GB/T 5310

GB/T 6479

GB/T 9948

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GB 13271

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GB/T 16507.4-2022

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