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**GB/T 16507.7-2013**

**Replace GB/T 16507-1996**

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**Water-tube Boilers—Part 7: Safety  
appurtenances and instruments**

**水管锅炉**

**第 7 部分：安全附件和仪表**

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## Foreword

GB/T 16507 “Water-tube Boiler” is divided into 8 parts;

- Part 1: General provisions;
- Part 2: Materials;
- Part 3: Structural design;
- Part 4: Strength calculation of pressure components;
- Part 5: Manufacture;
- Part 6: Inspection, testing and acceptance;
- Part 7: Safety appurtenances and instruments;
- Part 8: Installation and operation;

This part is drafted in accordance with rules provided in GB/T 1.1 —2009.

This part replaces GB/T 16507—1996. Compared with GB/T 16507—1996, major technical changes are as follows:

- Increase terms and definitions;
- Increase basic requirements;
- Modify provisions on safety valve installation;
- Modify provisions on calculation of safety valve discharges;
- Modify provisions on set-pressure of safety valve;
- Cancel content of safety appurtenances of shell boiler;
- Modify contents on installation of pressure gauge;
- Modify provisions of temperature measuring device;
- Increase content of pollution discharge and drainage device;
- Modify content of protective device.

This part is proposed and under the jurisdiction of China Standardization Committee on Boilers and Pressure Vessels (SAC/TC 262).

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This Part replaces the following historical editions issued:

——GB/T 16507—1996.

# Water-tube Boiler

## Part 7: Safety appurtenances and instruments

### 1 Scope

This part of GB/T 16507 specifies safety appurtenances and instruments of water-tube boiler, including requirements for safety valve, pressure gauge, water-level gauge, temperature measuring device, pollution discharge and drainage device and protective device setting, selection, etc.

This part applies to safety appurtenances and instruments of water-tube boiler defined in GB/T 16507.1.

### 2 Normative references

The articles contained in the following documents have become this document when they are quoted herein. For the dated documents so quoted, all the modifications (Including all corrections) or revisions made thereafter shall be applicable to this document.

GB/T 1239 Cold coiled helical springs technical specifications

GB/T 12228 General purpose industrial valves—Specification of carbon steel forgings

GB/T 12229 General purpose industrial valve—Specification of spheroidal graphite iron castings

GB/T 12230 General purpose industrial valve—Specification of stainless steel castings

GB/T 12241 Safety valves--General requirements

GB/T 12242 Performance test code--Pressure relief devices

GB/T 16507.1 Water-tube boilers—Part 1: General requirement

GB/T 16507.2 Water-tube boilers—Part 2: Materials

GB/T 16507.4 Water-tube boilers—Part 4: Strength calculation of pressure parts

TSG G0001 Boiler Safety Technical Supervision Administration Regulation

TSG ZF001 Safety Technical Supervision Regulations for Safety Valves

### 3 Terms and definitions

For the purpose of this document, the following terms and definitions defined in GB/T

16507.1 apply.

3.1

### **Instrument**

Devices used separately or together with other equipments for measurement

3.2

### **Minimum fluidized air flow**

Minimum air flow of circulating fluidized bed boiler that ensures fluidization of particle bed at certain bed material grain composition.

3.3

### **Quencher**

Equipment that uses wind or water to cool slagging on the bottom of circulating fluidized bed boiler.

3.4

### **Bed temperature**

Gas-solid two-phase flow temperature of circulating fluidized bed boiler dense-phase zone.

3.5

### **Bed pressure**

Pressure difference of wind chamber at the lower part of circulating fluidized bed boiler wind-distribution plate and hearth outlet pressure less wind-distribution plate resistance.

3.6

### **External heat exchanger (EHE)**

Equipment that uses some outer loop material to heat working medium on heating surface of circulating fluidized bed boiler outer loop.

## **4 Basic requirements**

4.1 Safety appurtenances and instruments equipped to boiler shall be for safe and reliable operation of boiler.

4.2 Safety appurtenances and instruments equipped to boiler shall meet requirements of TSG G0001 "Regulations on Safety Supervision of Boiler Safety Technology" and related product standards.

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