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**JB**

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

**中华人民共和国行业标准**

JB/T 4710-2005

Replace JB/T 4710-2000

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**Steel vertical vessels supported by skirt**

**钢制塔式容器**

**Issued on Jul 26, 2005**

**Implemented on Nov 1, 2005**

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**Issued by the National Development and Reform Commission of the People's Republic of  
China**

## **NOTE**

This book is the English translation of Steel vertical vessels supported by skirt JB/T 4710-2005. In the event of any inconsistency between the Chinese-language text of the Code and the present English-language text of the Code, the Chinese-language text shall be taken as ruling.

# **China National Development and Reform Commission**

## **Public Announcement**

**Year 2005 No. 46**

### **Announcement of 10 industrial standards of boiler pressure containers**

China National Development and Reform Commission approves 10 industrial standards of boiler pressure containers such as *Technical conditions of steel-casting of power station valve* which is announced now and is put into effect from Nov. 1<sup>st</sup>, 2005.

The above-mentioned industrial standards of boiler pressure containers are published by Xinhua Publishing House.

Appendix: Number and name of 10 industrial standards of boiler pressure containers

**July 26<sup>th</sup>, 2005-11-26**

## Appendix:

### Number and name of 10 industrial standards of boiler pressure containers

S/N	Standard Number	Standard Title	Substituted standard
1	JB/T 5263-2005	Technical standards of steel-casting of power station valve	JB/T 5263-1991
2	JB/T 4730.1-2005	Nondestructive testing of pressure-bearing equipment Part one: General requirements	JB 4730-1994
3	JB/T 4730.2-2005	Nondestructive testing of pressure-bearing equipment Part two: Ray test	JB4370-1994
4	JB/T 4730.3-2005	Nondestructive testing of pressure-bearing equipment Part three: Ultrasound test	JB4370-1994
5	JB/T 4730.4-2005	Nondestructive testing of pressure-bearing equipment Part four: Magnetic particle test	JB 4370-1994
6	JB/T 4730.5-20005	Nondestructive testing of pressure-bearing equipment Part five: Penetration test	JB 4370-1994
7	JB/T 4730.6-2005	Nondestructive testing of pressure-bearing equipment Part six: Vortex test	JB 4370-1994
8	JB/T 4710-2005	Steel-made tower type container	JB 4710-2000
9	JB/T 4731-2005	Steel-made horizontal type container	JB 4731-2000
10	JB/T 4781-2005	Can type container of liquefied gas	—

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## Foreword

This standard is a modification on the JB 4710-1992 standard according to the standard formulation and modification plan of the former National Pressure Container Standardization Technical Committee.

This standard is modified in respect to the implementation experience of JB 4710-1992 standard, advanced contents from counterpart international standard, and changes in related standard. Some contents of addition and perfection can be seen in this new standard, which is designed to ensure the safe application of pressure containers. Apart from being compliant with this standard, those tower containers involved in this standard shall also be accordance with related regulations of GB 150 in their process of designing, manufacturing, testing and acceptance.

From the implementation date of this standard, the standard shall replace the original JB 4710-2000 standard. Due to problems with the reference standards, the JB 4710-2000 standard is not published. Therefore, the actual replaced standard shall be JB 4710-1992.

Comparison with the JB 4710-1992 standard, man changes of this standard as follows:

- Changes to related contents according to GB 150;
- Changes to related contents according to GB 50009-2001 “Building Structure Load Criteria”;
- Changes to related contents according to GB 50011-2001 “Building Structure Anti-earthquake Load Criteria”;
- Addition of skirt support aerosphere structure;
- Supplement of contents regarding phased delivery;
- Addition of wind oscillation calculation for lateral wind
- Cancellation of the original Appendix B, Appendix C and Appendix E;
- Cancellation of the calculation example in the original Appendix F, and the example is moved to the compilation notice;

Appendix A in this standard is a normative appendix.

Appendix B, Appendix C and Appendix D in this standard are informative appendix.

This standard is proposed by the National Boiler Pressure Container Standardization Technology Committee (SAC/TC 262).

This standard is under the jurisdiction of the National Boiler Pressure Container Standardization Technology Committee (SAC/TC 262).

Major draft units of this standard: Former SINOPEC Lanzhou Design Institute, Lanzhou Petroleum Machinery Research Institute.

Major drafters of this standard: Wang Zhexiang

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The version status of replaced standard(s) by this standard is: JB 4710-1992

# Steel Vertical Vessels Supported by Skirt

## 1. Scope

This standard specifies the designing, manufacturing, testing and acceptance requirements for steel vertical vessels supported by skirt.

This standard is applicable to self-supported steel vertical vessels supported by skirt with skirt supports of not exceed 35MPa of design pressure, exceed 10m of height H, and of the ratio of height H to average diameter D higher than 5.

This standard is not applicable to the following tower containers:

- a) Tower containers with towing devices
- b) Row of towers or group of towers linked up by an operation platform
- c) Tower containers with jacket

## 2. Normative Reference

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 150 *Steel Pressure Containers*

GB/T 700-1988 *Structural Carbon Steel*

GB/T 1591-1994 *Dilute Alloy High Strength Structural Steel*

GB 50009-2001 *Building Structure Load Criteria*

JB/T 4730 *Nondestructive Testing on Pressurized Equipment*

JB 4733 *Explosion Stainless Steel Composite Plate for Pressure Containers*

*Safety Technical Monitor Norms for Pressure Containers (1999) by former National Quality and Technology Supervision Administration*

## 3. Terms and Definitions

For the purposes of this Standard, the following terms and definitions shall apply.

### 3.1 Pressure

All are referring to meter pressure if not specified otherwise.

### 3.2 Operating Pressure

The operating pressure is referring to the maximum possible pressure at the top the of a tower container under normal working conditions.

### 3.3 Design Pressure

The design pressure is referring to the maximum pressure at the top of a tower container, and it is to become a part of the design load conditions together with the design temperature. The value of the design pressure shall not be below the operating pressure.

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