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

GB/T 8464-2023

**Cast iron, copper and stainless steel valves with screwed
connections**

铁制、铜制和不锈钢制螺纹连接阀门

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Foreword

This document was issued on 17 March 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 October 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 8464-2023 covers gate valves, globe valves, ball valves and check valves with screwed connections, made in cast iron, copper or stainless steel - the structure types such valves may take, the materials of the body and the parts inside it, and the requirements that follow from both. Those requirements run from the pressure-temperature rating, the structure length, the connection end, the minimum flow diameter and the minimum wall thickness of the body to the individual parts: cover, wrench, gate, seat, disc, stem and ball. Assembly, operation and appearance follow, then shell strength and sealing performance, the leaching of metallic contaminants, and torsional and bending resistance. That last group is what a screwed valve is peculiarly exposed to: it is turned onto a pipe thread with a wrench, so the body has to survive the tool that installs it and then carry the bending load of the pipework hanging off it, and where the valve sits in a potable water line the wetted metal must not release contaminants into the flow. Test methods, inspection rules, and marking, packaging, transport and storage close the document. For valve manufacturers, plumbing and heating contractors, and the buyers who write purchase specifications.

This document specifies the structure types, materials, technical requirements, test methods, inspection rules, marking, packaging, transportation, and storage of cast iron, copper, and stainless steel gate valves, globe valves, ball valves, and check valves with screwed connections.

This document applies to.

Gray cast iron valves with a nominal pressure not exceeding PN16 and a nominal size not exceeding DN100.

Malleable cast iron valves and ductile cast iron valves with a nominal pressure not exceeding PN25 and a nominal size not exceeding DN100.

Copper alloy valves and stainless steel valves with a nominal pressure not exceeding PN40 and a nominal size not exceeding DN100.

The operating temperature is not higher than 180 degrees C, and the working medium is water,

non-corrosive liquid, air, saturated steam, etc.

Note 1. The valves in this document refer to gate valves, globe valves, ball valves, or check valves with screwed connections.

Note 2. For valves with a nominal size greater than or equal to DN50, the working medium does not include air or saturated steam.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 700, Carbon structural steels

GB/T 1176, Casting copper and copper alloys

GB/T 1184-1996, Geometrical tolerancing - Geometrical tolerance for features without individual tolerance indications

GB/T 17241.7, Specifications for cast iron pipe flanges

GB/T 29528, Specification of copper alloy forgings for valves

GB/T 35741, Specification of stainless steel forgings for industrial valves

QB/T 5257, Polytetrafluoroethylene (PTFE) sheet

3 Terms and definitions

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

3.1

wrench

The part where the installation tool contacts the threaded head of the valve pipe when clamping the valve to the pipeline.

4 Structure type

4.1 A typical structure of the gate valve with screwed connections is shown in Figure 1.

5.2 The technical requirements for gray iron castings shall comply with the provisions of GB/T 12226; the technical requirements for malleable iron castings shall comply

with the provisions of GB/T 9440; the technical requirements for ductile iron castings shall comply with the provisions of GB/T 12227; the technical requirements for copper alloy castings shall comply with the provisions of GB/T 12225; the technical requirements for copper alloy forgings shall comply with the provisions of GB/T 29528; the technical requirements for stainless steel castings shall comply with the provisions of GB/T 12230; the technical requirements for stainless steel forgings shall comply with the provisions of GB/T 35741.

6 Technical requirements

6.1 Pressure-temperature rating

6.1.1 The pressure-temperature rating shall be determined by the smaller pressure-temperature rating of the valve body and internal component materials.

6.1.2 The pressure-temperature rating of cast iron valves shall comply with the provisions of GB/T 17241.7.

6.1.3 The pressure-temperature rating of copper alloy valves shall comply with the provisions of GB/T 15530.8.

6.1.4 The pressure-temperature rating of stainless steel valves shall comply with the provisions of GB/T 12224.

6.2 Structure length

The structure length of valves shall comply with the provisions of GB/T 12221 or the requirements of the purchase contract.

6.3 Connection end

6.3.1 The pipe threads at both ends of the valve shall comply with the provisions of GB/T 7306 (all parts), GB/T 7307, and GB/T 12716.

6.3.2 The surface roughness Ra value of the pipe thread shall not exceed 6.3 μm , and the thread surface shall be smooth and free from obvious defects such as dents and broken thread.

6.3.3 The angular deviation of the pipe thread axis at both ends shall not exceed 1° .

6.4 Minimum flow diameter