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Specification for power station valves

电站阀门技术规范

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Boilers and Pressure Vessels (SAC/TC262). This document was drafted by: Wuhan Boiler Group Valve Co., Ltd., and Shanghai Power Equipment Complete Set Design and Research Institute Co., Ltd. Harbin Power Station Valve Co., Ltd., Qingdao Power Station Valve Co., Ltd., Huaxia Valve Co., Ltd., and Hangzhou Huahui Valve Co., Ltd. of Harbin Electric

Corporation The company, China Special Equipment Inspection and Research Institute, Dongchen Intelligent Technology Co., Ltd., and Shanghai Yahe Valve Complete Equipment Co., Ltd. The main drafters of this document are. Zhang Na, Jiao Zijie, Huang Xin, Zhang Han, Shi Huihui, Wan Shengjun, Xu Jiao, Liu Shizhong, Chen Xuefeng, Chen Lilong, and An Dong. Wang Lihua, Huang Jun, Han Lina, Wang Yidong, Wang Ping. Power Plant Valve Technical Specifications

1 Scope

GB/T 46814-2025 is the Chinese national standard covering the valves of a thermal power station - the main steam and feedwater valves working at supercritical pressure and six hundred degrees, the safety valves, the control valves and the isolation, with their design, materials, manufacture, testing and acceptance. At 76,500 words it is one of the largest standards of the year, and it covers the components whose failure takes a unit off the grid. First edition. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the parameters and models, ordering requirements, general requirements, pressure-temperature ratings, design, materials, manufacturing, and inspection of power plant valves. Inspection, testing and acceptance, marking, painting, packaging, supply and storage, delivery documents, installation, commissioning and maintenance requirements. This document applies to the design, manufacture, and acceptance of cast, forged, and welded valves with flanged, threaded, and welded connections, including gate valves. Gate valves, plug valves, check valves, safety valves, relief valves, regulating valves, pressure reducing valves, desuperheating and pressure reducing valves, throttle valves, water supply distribution valves, drain valves, quick-start valves Valves used in thermal power generating units, such as shut-off valves, butterfly valves, ball valves, circulating pump outlet valves, lockout valves, high-pressure heater three-way valves, and extraction steam non-return valves, have parameter ranges. Enclosure.

- a) Pressure rating less than or equal to PN800, maximum operating temperature less than or equal to 430°C;
- b) Pressure ratings from Class 150 to Class 4500;
- c) The working pressure is less than or equal to 38.5 MPa, and the maximum working temperature is less than or equal to 625°C;
- d) The working pressure is less than or equal to 16MPa, and the maximum working

temperature is less than or equal to 648°C. Valves used in other steam parameter units, industrial boilers, waste heat boilers and other special equipment can be adopted with reference to this method.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 150 (All Parts) Pressure Vessels

GB/T 152.4 Countersunk fasteners for hexagonal head bolts and hexagonal nuts

GB/T 196 Basic Dimensions of Ordinary Threads

GB/T 197 Tolerances for Standard Threads

GB/T 711 Hot-rolled steel plates and strips of high-quality carbon structural steel

GB/T 713.2 Steel plates and strips for pressure equipment - Part

7 Stainless steel and heat-resistant steel

GB/T 1047 Definition and selection of nominal dimensions for piping components

GB/T 1184 Geometric Tolerances - No Tolerance Values Specified

GB/T 1220 Stainless Steel Bars

GB/T 1221 Heat-resistant steel bars

GB/T 1239.2 Technical conditions for cold-rolled cylindrical helical springs - Part