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**NATIONAL STANDARD OF THE  
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**GB/T 16702.3-2025**

Replacing GB/T 16702-2019

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**Design specification for mechanical components in nuclear  
island of pressurized water reactor nuclear power plants - Part  
3: Class 2 components**

压水堆核电站核岛机械设备设计规范 第3部分：2级设备

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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. This document is Part 3 of GB/T 16702 "Design Specification for Mechanical Equipment of Nuclear Island in Pressurized Water Reactor Nuclear Power Plant". The following parts are published.

- 2. Class 1 equipment;
- 3. Level 2 equipment;
- 4. Level 3 equipment;
- 5. Small equipment;
- 6. Reactor internals;
- 7. Equipment support;
- 8. Low-pressure or atmospheric pressure storage tanks. This document replaces Chapter

## 1 Scope

GB/T 16702.3-2025 is the Chinese national standard on design specification for mechanical components in nuclear island of pressurized water reactor nuclear power plants - part 3: class 2 components, in the field of energy and heat transfer engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 28 February 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 28 February 2025. Classification: ICS 27.120.20, CCS F69. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the materials, design, manufacturing, inspection and overpressure protection of the second-level pressure equipment in the nuclear island mechanical equipment of a pressurized water reactor nuclear power plant. Requirements and corresponding tests are described. This document applies to the design of Class 2 pressure equipment and its components as specified in Chapter 5 of GB/T 16702.1-2025.

## 2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 150.3-2024 Pressure Vessels Part

## 3 Design GB/T 151 Heat Exchanger

GB/T 16702.1-2025 Specification for design of mechanical equipment of nuclear island of pressurized water reactor nuclear power plant Part

## 6 Level

2 Equipment of GB/T 16702-2019 "Design Specifications for Mechanical Equipment of Nuclear Island of Pressurized Water Reactor Nuclear Power Plant". Compared with Chapter 6 in GB/T 16702-2019, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- Added terms and definitions (see Chapter 3);
- Added "Boundaries of equipment and pipeline components and accessories" and made adjustments to the boundaries between level 2 equipment and pipeline components and accessories. Detailed provisions (see 4.1);
- Changed some of the "material standards adopted" and adopted the material standard unification and material The results of unified brand names (see 5.2, 6.2 of the.2019 edition);
- Changed the description of working condition classification (see 6.1.2, 6.3.1.2 of the.2019 edition);
- Added "T level criteria" (see 6.1.4.7);
- Added requirements for quick-opening closures (see 6.2.2.5);
- Added "Verification test to determine the maximum design pressure" (see 6.1.8);

- Change "overpressure protection report" to "overpressure analysis report" (see 9.2, 6.6.2 of the 2019 edition);
- Added "Archive of reports" (see 9.2.5);
- Changed the relevant requirements for "determination of displacement" (see 9.7,

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