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

GB/T 31329-2025

Replacing GB/T 31329-2014

**Technical specification for water saving in circulating cooling
water systems**

循环冷却水节水技术规范

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Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions

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. This document replaces GB/T 31329-2014 "Technical Specification for Water Saving in Circulating Cooling Water". Compared with GB/T 31329-2014, except for the structure... Aside from adjustments and editorial changes, the main technical changes are as follows:

- a) Added terms and definitions (see Chapter 3);
- b) The water quality requirements for circulating cooling water makeup water have been changed (see Tables 1 and 2, 2014 versions of Tables 1 and 2);
- c) The system control requirements based on different makeup water sources have been removed, and unified system control requirements have been added (see 5.2.1 and). 5.2.2 (5.2.2 in the 2014 version);
- d) The requirement for the annual replenishment rate of conventional water has been increased (see 5.2.3);
- e) The circulating cooling water quality control indicators have been changed (see Table 3, Tables 3 and 4 in the 2014 edition);
- f) Softening treatment technology and desalination or partial desalination treatment technology have been removed (see 5.3.1.3 in the 2014 edition);
- g) The content on water quality stabilization technology has been removed (see 5.3.2 in the 2014 version);
- h) Added process control requirements for circulating cooling water conservation treatment (see 5.3.2);

1 Scope

GB/T 31329-2025 is the Chinese national standard covering cutting the water a cooling tower consumes - the cycles of concentration and how far they can be pushed before scaling, the blowdown and its reuse, the drift and leakage losses, and the indicators a plant is measured against. Cooling towers are the largest single water use in most industrial plants. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 31329-2014.

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 6911 Determination of sulfate in industrial circulating cooling water and boiler water

GB/T 6913 Analytical Methods for Boiler Water and Cooling Water - Determination of Phosphate

GB/T 14415 Determination of solids in industrial circulating cooling water and boiler water

GB/T 14424 Determination of residual chlorine in industrial circulating cooling water

GB/T 14427 Methods for the Analysis of Boiler Water and Cooling Water - Determination of Iron

GB/T 14643.1 Determination of bacteria and algae in industrial circulating cooling water - Part

GB/T 15451 Determination of total alkalinity and phenolphthalein alkalinity in industrial circulating cooling water

GB/T 15452 Determination of calcium and magnesium ions in industrial circulating cooling water by EDTA titration method

GB/T 15453 Determination of chloride ions in industrial circulating cooling water and boiler water

GB/T 15456 Determination of Chemical Oxygen Demand (COD) in Industrial Circulating Cooling Water - Potassium Permanganate Index Method

GB/T 15893.1 Determination of turbidity in industrial circulating cooling water - Scattered light method

GB/T 16632 Determination of scale inhibition performance of water treatment agents -

Calcium carbonate deposition method

GB 17167 General Rules for the Configuration and Management of Energy Measuring Instruments in Energy-Using Units

GB/T 18175 Determination of Corrosion Inhibiting Properties of Water Treatment Agents - Rotary Coating Method

GB/T 21534 Water Conservation Terminology

GB/T 22592 General Rules for Determination of pH Value of Water Treatment Agents

GB/T 23838 Determination of suspended solids in industrial circulating cooling water

GB/T 50050 Design Code for Industrial Circulating Cooling Water Treatment

HG/T 2160 Dynamic Simulation Test Method for Cooling Water

HG/T 3778 Technical Rules for Chemical Cleaning and Pre-filming Treatment of Cooling Water Systems

3 Terms and Definitions

The terms and definitions defined in GB/T 21534, GB/T 50050, and HG/T 3778, as well as the following terms and definitions, apply to this document.