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

GB/T 17981-2025

Replacing GB/T 17981-2007

Economic operation of air conditioning systems

空气调节系统经济运行

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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. This document replaces GB/T 17981-2007 "Economic Operation of Air Conditioning Systems". Compared with GB/T 17981-2007, except for structural adjustments... Aside from integration and editorial changes, the main technical changes are as follows:

- a) Added terms and definitions (see Chapter 3);
- b) Increased reasonable indoor environmental parameters for the economical operation of comfort air conditioning systems in civil buildings and process air conditioning systems in industrial buildings. (See 4.1.3);
- c) Added "Energy Consumption Sub-metering and Digitalization" and "Operation Digitalization and Intelligentization" (see
- d) Requirements for "economic operation of cold and heat source equipment and systems," "economic operation of water systems," and "economic operation of air conditioning terminals" have been added (see
- 4.4 and 4.5). and 4.6);
- e) Added the requirement of "renewable energy and low-carbon economic operation" (see 4.7);
- f) The "Evaluation Indicators and Evaluation Methods" have been revised, and "Energy Intensity Type Indicators," "Energy Efficiency Type Indicators," and "Carbon Emission Type Indicators" have been added. The "standard" requirements are detailed in sections 5.1, 5.2, and
- 5.3 of the.2007 edition of "Evaluation Indicators and Methods for Economic Operation of Air Conditioning Systems";

g) Change "Energy Management" to "Operation Management" and add content (see 6.1, 6.2 and 6.3, "Energy Management" in the 2007 edition). 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 Energy Infrastructure and Management (SAC/TC20). This document was drafted by: Tsinghua University, China National Institute of Standardization, Zhejiang University Architectural Design & Research Institute Co., Ltd., and China Northwest Construction Group. Design Institute Co., Ltd., China Machinery Engineering Corporation, Hefei General Machinery & Electrical Products Testing Institute Co., Ltd., Shanghai Academy of Building Research Research Institute Co., Ltd., Tianjin University Architectural Design and Planning Research Institute Co., Ltd., National Energy Conservation Center, Huazhong University of Science and Technology, Guangdong Midea HVAC Equipment Co., Ltd., Yiqing Carbon (Beijing) Technology Co., Ltd., China Southern Power Grid Integrated Energy Co., Ltd., Clemente Jetlink Refrigeration Equipment (Shanghai) Co., Ltd., Zhuhai Gree Electric Appliances Co., Ltd., Shanghai Aike Refrigeration Technology Co., Ltd., Qingdao Jieneng Yidao Energy Efficiency Technology Co., Ltd. Limited Company, Shanghai University of Science and Technology, Shenzhen Energy Technology (Xi'an) Co., Ltd., Qingdao Aidesen IoT Technology Co., Ltd., China Automotive Technology and Research Institute of New Energy Technology Co., Ltd. Limited Liability Company, Xinhong Zhiwei (Beijing) Technology Co., Ltd., Beijing Guantian Execution Technology Co., Ltd., CITIC Heye Investment Co., Ltd., Lens Technology Technology Co., Ltd., and State Grid Xiong'an New Area Power Supply Company. The main drafters of this document are. Wei Qingpeng, Xia Yajuan, Yang Yi, Zhou Min, Wu Weilan, Zhang Hui, Chen Yanru, Zhu Weifeng, Ding De, Xie Hongxi, and Zhang Yang. Wang Kan, Deng Jiewen, Zhang Beihong, Zhang Xiaoling, Xia Xiaoping, Li Yuanyang, Chu Ningbo, Zhang Peidong, Xu Tao, Li Xiaole, Zhang Hua, Chen Yongsheng, Wei Yu Liu Jianbo, Wang Xingdi, Li Ting, Zhou Tiecheng, Zhang Liang, Zhang Cheng, Zhang Zaixi, Wang Yi, Wang Zheng, Chu Hong, Nie Meiqing, Chen Yunhua, Chen Tian, Liu Jingwen Liu Yijiang. This document was first published in 2000, revised for the first time in 2007, and this is the second revision. Economical operation of air conditioning system

1 Scope

GB/T 17981-2025 is the Chinese national standard covering running an existing HVAC plant well - the chilled water and condenser temperatures reset against load, the pump and fan speeds, the free cooling and the outdoor air rate, the sequencing of machines, and the indicators an operator is judged against. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 17981-2007.

This document specifies the technical requirements, evaluation indicators and methods for the economical operation of air conditioning systems (hereinafter referred to as air

conditioning systems). Administration. This document applies to centralized air conditioning systems in public buildings, residential buildings, and other civil and industrial buildings, as well as systems shared by multiple buildings. It uses a centralized air conditioning system.

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 19577-2024 Energy Efficiency Limits and Energy Efficiency Grades for Heat Pumps and Chillers

GB/T 34913 Classification and Representation of Energy Consumption in Civil Buildings

GB 50019 Code for Design of Heating, Ventilation and Air Conditioning of Industrial Buildings

GB/T 50155 Standard for Terminology of Heating, Ventilation and Air Conditioning

GB 50189 Standard for Energy-Saving Design of Public Buildings

GB 50352 Unified Standard for Design of Civil Buildings

GB/T 51161 Energy Consumption Standard for Civil Buildings

GB/T 51245 Unified Standard for Energy-Saving Design of Industrial Buildings

GB 55015 General Specification for Building Energy Conservation and Renewable Energy Utilization

GB 55016 General Code for Building Environment

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 public buildings Office buildings (including office buildings, government office buildings, etc.), commercial buildings (such as shopping malls, financial buildings, etc.), and tourist buildings (such as hotels, restaurants, entertainment venues, etc.). Entertainment venues, etc.), science, education, culture and health buildings (including cultural, educational, scientific research, medical, health, and sports buildings), and communications buildings (such as post and telecommunications, broadcasting, etc.). It is a general term for buildings used for broadcasting and transportation (such as airport and railway station buildings).

3.2 industrial building A collective term for production plants, warehouses, public auxiliary

buildings, and living and administrative auxiliary buildings.

3.3 Serving production, with temperature, relative humidity, air particle count, and pressure as the main control objects, it is used in production workshops, laboratories, and experimental environments. Air conditioning systems that create various production environments, such as material storage rooms and environmental testing laboratories, to ensure normal production operations and product quality.

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