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

GB/T 14092.3-2025

Replacing GB/T 14092.3-2009

**Environmental condition for machinery products - Part 3: High
altitude**

机械产品环境条件 第3部分：高海拔

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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 is Part 3 of GB/T 14092 "Environmental Conditions for Mechanical Products". GB/T 14092 has already published the following parts.

3.High Altitude;

---Industrial corrosion;

---Dry heat. This document replaces GB/T 14092.3-2009 "Environmental Conditions for Mechanical Products at High Altitudes". Compared with GB/T 14092.3-2009, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) The content of the chapter "Environmental Conditions for Use" has been revised, and the chapter title has been changed to "Environmental Conditions" (see Chapter 4, Chapter 3 of the.2009 edition);

b) The content of the section "Parameter Values for Various Environmental Conditions" has been changed, and the name has been changed to "Severity Levels of Various Environmental Conditions" (see...). Chapter 5 (

3.6 of the.2009 edition);

c) Modified "Climate and Environmental Conditions", "Special Climate and Environmental Conditions", "Chemically Active Substance Environmental Conditions", "Mechanical

Environmental Conditions", and "Biological Environmental Conditions". The content of "environmental conditions" has been updated, replacing the old classification with a new one (see Tables 1-5, Tables 1, 2, and 3 of the.2009 edition). Tables 4 and 6);

d) The content on "conditions for mechanically active substances" has been deleted (see 3.6.5 in the.2009 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 Environmental Conditions and Environmental Testing for Electrical and Electronic Products (SAC/TC8). This document was drafted by: China Electric Power Research Institute Co., Ltd., Kunming Electric Power Research Institute, and Yunda Energy Technology Group Co., Ltd. Limited Liability Company, Institute of Metals and Chemistry of China Academy of Railway Sciences Group Co., Ltd., Yunnan Electric Power Research Institute (Group) Co., Ltd. Company, Tibet Guoji Plateau Electromechanical Equipment Scientific Research Co., Ltd., Chongqing University, Tsinghua University Shenzhen International Graduate School, Shenzhen Shangke Intelligent Technology Co., Ltd., Suzhou Electrical Science Research Institute Co., Ltd., Aerospace Science and Industry Defense Technology Research and Testing Center, China Southern Power Grid Co., Ltd. Limited Liability Company Ultra-High Voltage Transmission Company Dali Bureau, Weikai (Foshan) Testing Technology Co., Ltd., Kunming High Altitude Electrical Testing Co., Ltd. General Machinery Key Core Basic Components Innovation Center (Anhui) Co., Ltd. The main drafters of this document are. Lü Tianyi, Jie Ganxin, Zhou Yuling, Cheng Chenguang, Liu Xin, Wang Tao, Sun Weizhong, Hu Jianlin, Wang Xilin, and Wei Hongbo. Hu Chun, Zeng Xiang'an, Zhao Pengfei, Liu Shizeng, Che Hansheng, Wang Jun, Chen Chuan, Li Ya, Shi Yu, Jia Zhidong, Shi Zhenping, Sai Juncong. The release history of this document and the document it replaces is as follows:

---First published in.1993 as GB/T 14092.4-1993, and revised for the first time in.2009;

---This is the second revision.

GB/T 14092 "Environmental Conditions for Mechanical Products" covers the environmental conditions that mechanical products may encounter during storage, transportation, and use. For products used under different conditions (such as outdoor storage with shelter, fixed outdoor use with weather protection, and transportation), separate parameters are provided. The product is categorized into several levels. These levels also take into account the degree of restriction the product may face during use, ranging from strict restrictions (such as in a temperature-controlled room) to more stringent restrictions. (Within) to unrestricted conditions. GB/T 14092 is proposed to consist of the following 7 parts.

1 Scope

GB/T 14092.3-2025 is the Chinese national standard on environmental condition for

machinery products - part 3: high altitude, in the field of testing. 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 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 19.020, CCS A21. 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 environmental parameters and severity levels of mechanical products under high-altitude environmental conditions. This document applies to mechanical products used in areas with altitudes of 1000m to 5000m, and outlines transportation and loading/unloading procedures, especially in areas without weather protection. When determining environmental condition standards for sites and sites with climate protection, environmental parameters and severity levels should be selected based on the degree of environmental impact they are subject to. This document does not apply to mechanical products used in special environmental conditions such as high-altitude areas with explosive hazardous substances or mines.

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 4798.10 Introduction to Environmental Conditions for the Application of Electrical and Electronic Products

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Environmental conditions High-altitude environmental conditions consist of climatic environmental conditions (K), special climatic environmental conditions (Z), chemically active substance environmental conditions (C), and mechanical environmental conditions. Environmental conditions (M) and biological environmental conditions (B) are described in different levels. Environmental condition classification allows for possible combinations of various environmental conditions, which can accurately reflect the impact of environmental conditions on the transportation and use of products. According to GB/T 4798.10,

environmental condition levels are indicated by the following symbols.

---The first digit indicates the application conditions (2 indicates transportation and loading/unloading, only considered under mechanical environmental conditions; 3 indicates the presence of weather protection). 4 indicates fixed use in protected locations; 4 indicates fixed use in locations without weather protection.

---Capital letters, climatic environmental conditions (K), special climatic environmental conditions (Z), chemically active substance environmental conditions (C), mechanical environmental conditions (M) and biological environmental conditions (B).

---lowercase letters, air pressure (p), thermal radiation (h), air movement (a), water sources other than rainwater (w), snowfall (s).

---The other number indicates the severity level; generally, the higher the number, the more severe the conditions. Example. Level 3Kp

1.Where. 3 indicates fixed use in locations with climate protection, K indicates climate conditions, p indicates air pressure, and 1 indicates severity level.

5 Severity levels of various environmental conditions

5.1 Climate and Environmental Conditions (K) When selecting an appropriate severity level, it is important to consider whether the climate conditions of the climate-protected area are affected by the outdoor environment, especially temperature. The effects of solar radiation. The severity levels of climatic and environmental conditions are shown in Table 1.