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

GB/T 4797.2-2017

**Classification of environmental conditions -- Environmental
conditions appearing in nature -- Air pressure**

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Foreword

GB/T 4797 includes the following eight sections.

--- GB/T 4797.1 Environmental conditions Classification of natural conditions Temperature and humidity;

--- GB/T 4797.2 Environmental conditions Classification Natural conditions Air pressure;

--- GB/T 4797.3 Electrotechnical products natural environment conditions of biological;

--- GB/T 4797.4 Classification of environmental conditions Natural environmental conditions Solar radiation and temperature;

--- GB/T 4797.5 Environmental conditions Classification Natural environmental conditions Precipitation and wind;

--- GB/T 4797.6 Classification of environmental conditions Natural environmental conditions Dust, sand, salt spray;

--- GB/T 4797.7 Classification of environmental conditions for electrical and electronic products Natural environmental conditions Seismic vibration and shock;

--- GB/T 4797.8 Electrotechnical products Environmental conditions Classification Natural environmental conditions Fire exposure.

This section GB/T 4797 Part 2.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 4797.2-2005 "Electrical and Electronic Products Part 2. Natural conditions - Elevation and pressure, water depth and pressure."

This section compared with GB/T 4797.2-2005 main changes are as follows.

- The name of this section changed to "environmental conditions classification of natural conditions atmospheric pressure";
- The original standard Chapter 3, Chapter 5, 5.4 suspended paragraphs were added to the title;
- Modify the simplified headings and descriptions of "sub-standard atmospheres" and "greater than standard atmospheres" (see 4.2 and 4.3);
- Modify formula (1) ~ formula (4);
- Modify the height range of Table 1, add the comments in Table 2, delete Table 3, Table 4, Figure 1 ~ Figure 5;
- Delete Appendix NA.

This section uses the translation method is equivalent to using IEC 60721-2-3..2013 "Environmental Conditions Classification Part 2-3. Natural environmental conditions Barometric pressure. "

The documents of our country that are in conformity with the corresponding international documents that are normative references in this part are as follows.

- GB/T 4796-2017 environmental classification - Part 1. Environmental parameters and their severity (IEC 60721-1..2002, IDT)

This section and IEC 60721-2-3..2013 compared to the main editorial changes made the following.

- In order to unify with our existing standard series, the title of this section to "environmental conditions classification of natural conditions atmospheric pressure."

This part of the National Electrical and Electronic Environmental and Environmental Test Standardization Technical Committee (SAC/TC8) and focal point.

This section Drafted by. Kunming Electric Institute of Science and Technology, China Electric Apparatus Research Institute Co., Ltd., Kunming, limited detection of high-altitude electrical appliances

the company.

1 Scope

This part of GB/T 4797 gives the atmospheric pressure of different altitudes exist in the natural environment, as the product storage, transportation and use

Select the appropriate level of atmospheric pressure background material.

The values in this section can be used when selecting the severity of barometric parameters for product applications.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

IEC 60721-1 Classification of environmental conditions - Part 1. Environmental parameters and classification (Classification of environmental conditions - Part 1. Environmental parameters and their severities)

3 Terms and definitions

no.

4.1 Overview

Product pressure severity should be consistent with IEC 60721-1.

Air pressure generally affects the performance of the product in different ways, most notably in both sub-standard and above-standard atmospheres.

4.2 below the standard atmospheric pressure

Above sea level, low air pressure has the following effect on the product.

- Gas or liquid leak from the sealed container;
- pressure vessel rupture;
- The physical and chemical properties of low-density materials change;
- As the pressure decreases, the discharge voltage of the product, the corona voltage and breakdown voltage between the electrodes decreases, the product will be due to arc or electricity

Halo and failure or operating failure (BaShen law pointed out. In a uniform electric field, for a given electrode shape and material, the air

Breakdown voltage depends on the air pressure and the electrode air gap product);

- Reduce air convection and conduction cooling efficiency;

--- Expected physical effects of acceleration, such as volatile plasticizers, lubricating oil evaporation.

4.3 above the standard atmospheric pressure

The high pressures present in natural basins and mines can result in large mechanical stresses on the sealed container.

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