



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

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**Reciprocating internal combustion engine driven alternating
current generating sets - Part 1: Application, ratings and
performance**

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020

"Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document is Part 1 of GB/T 2820 "Reciprocating internal combustion engine driven alternating current generating sets". GB/T 2820 has been published in the following parts:

- Part 1: Application, ratings and performance;
- Part 2: Engines;
- Part 3: Alternating current generators for generating sets;
- Part 4: Control gear and switchgear;
- Part 5: Generating sets;
- Part 6: Test methods;
- Part 7: Technical declarations for specification and design;
- Part 8: Requirement and tests for low-power generating sets;
- Part 9: Measurement and evaluation of mechanical vibrations;
- Part 10: Measurement of airborne noise by the enveloping surface method;
- Part 11: Rotary uninterruptible power systems - Performance requirements and test methods.

This document replaces GB/T 2820.1-2009 "Reciprocating internal combustion engine driven alternating current generating sets - Part 1: Application ratings and performance".

Compared with GB/T 2820.1-2009, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- Added the abbreviations "DCP" and "MAX" (see Chapter 4);
 - Added the requirements for 10% overload power (see 14.3.3);
 - Added the definitions of "Data centre power (DCP)" and "Maximum power for low-power generating sets (MAX)" (see 14.3.6 and 14.3.7);
- Added the requirements for power factor range (see 15.8).

Reciprocating internal combustion engine driven alternating current generating sets -- Part 1: Application, ratings and performance

1 Scope

This document defines various classifications for the application, rating and performance of generating sets consisting of a Reciprocating Internal Combustion (RIC) engine, Alternating Current (a.c.) generator and any associated control gear, switchgear and auxiliary equipment.

It applies to a.c. generating sets driven by RIC engines for land and marine use, excluding generating sets used on aircraft or to propel land vehicles and locomotives.

For some specific applications (e.g. essential hospital supplies, high-rise buildings), supplementary requirements can be necessary. The provisions of this document can be the basis for establishing any supplementary requirements.

For other reciprocating-type prime movers (e.g. sewage-gas engines, steam engines), the provisions of this document can be used as a basis for establishing these requirements.

Generating sets meeting the requirements of this document are used to generate electrical power for continuous, peak-load and standby applications. The classifications laid down in this document are intended to help understanding between manufacturer and customer.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references,

the latest edition of the referenced document (including any amendments) applies.

ISO 3046-1, Reciprocating internal combustion engines -- Performance -- Part 1:

Declarations of power, fuel and lubricating oil consumptions, and test methods --

Additional requirements for engines for general use

NOTE: GB/T 6072.1-2008, Reciprocating internal combustion engines - Performance - Part 1:

Declarations of power fuel and lubricating oil consumptions and test methods - Additional requirements for engines (ISO 3046-1:2002, IDT)

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