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

GB/T 21404-2022

Replacing GB/T 21404-2008

**Internal combustion engines - Determination and method for
the measurement of engine power - General requirements**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document replaces GB/T 21404-2008 "General Requirements for Determination and Measurement of Engine Power of Internal Combustion Engines" and is consistent with

Compared with GB/T 21404-2008, except for structural adjustment and editorial changes, the main technical changes are as follows.

- Deleted the mandatory clauses in the scope (see 1.3 of the.2008 edition);
- Changed the expression of related terms (see Chapter 3, Chapter 3 of the.2008 edition);
- Optimized the chapter structure of 6.3.2.1 (see 6.3.2.1, 6.3.2.1 of the.2008 edition).

This document is equivalent to ISO 15550:2016 "General Requirements for Determination and Measurement Methods of Engine Power of Internal Combustion Engines".

The following minimal editorial changes have been made to this document.

- The note in Table 6 has been added to explain the symbols in the table.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

This document establishes the institutional framework for the ISO standard for engine power measurement. Applying this system framework can avoid the engine power

A number of specious ISO standards arise in terms of definitions and measurements.

The framework of this system adopts the "core"- "satellite" approach. The "Core" standard includes common requirements for engines of various uses described in the scope,

The "satellite" standard contains the requirements that must be met for engine power measurement and calibration for a specific application.

This document must only be used in conjunction with a "satellite" standard to fully specify the requirements for that specific application engine. Therefore, the "core" label

The standard is not a document that can exist alone, but can only be used as a supplement to a specific "satellite" standard, so as to form a

a complete standard.

The advantage of adopting this method is that the standards can be used reasonably when the same or similar engines are used for different purposes, and it can ensure that all standards

To achieve harmonization in the development and revision process.

This document is the "core" standard.

This document has been developed as a "core" standard for engine power measurement.

This document is in the process of being drafted in line with ISO /TC22

Technical committees such as vehicles, ISO /TC23 agricultural and forestry machinery, ISO /TC127 earth-moving machinery and ISO /TC188 small ships conducted close

cooperate. Any revisions to this document should be formally approved by the technical committees mentioned above. This "Core" Standard is compatible with various

Together with the "satellite" standard for purpose engines, it is the basis for engine power calibration and measurement. The technical committees will have overall responsibility for the management of each

Since the "satellite" standard.

Any further requirements are to be agreed between the manufacturer and the customer.

Determination of engine power for internal combustion engines and

General requirements for measurement methods

1 Scope

1.1 This document specifies standard reference conditions and power, fuel consumption and oil consumption for commercial internal combustion engines operating on liquid or gaseous fuels

Quantitative calibration and test methods. Suitable for.

a) reciprocating internal combustion engines (spark-ignition or compression-ignition engines), but excluding free-piston engines;

b) Rotary piston engines.

These engines can be naturally aspirated or supercharged using a supercharger or turbocharger.

1.2 This document applies to engines for the following purposes.

a) land, rail traction and marine engines specified in ISO 3046-1;

b) Vehicle engines specified in ISO 1585 and ISO 2534;

c) Motorcycle engines specified in ISO 4106;

d) engines for agricultural tractors and machinery;

e) Engines for earth-moving machinery specified in ISO 9249;

f) Engines for yachts and other small ships with a hull length not greater than 24m specified in ISO 8665.

This document applies to engines for road construction machinery, industrial trucks and other uses for which no suitable standard exists.

This document also applies to test bench measurements and field measurements in the manufacturer's plant.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

Note. GB/T 1883.1-2005 Vocabulary for reciprocating internal combustion engines Part 1.Terms for engine design and operation (ISO 2710-1.2000, IDT)

Performance-Part 4.Speedgoverning)

Note. GB/T 6072.4-2012 Performance of reciprocating internal combustion engines Part 4.Speed regulation (ISO 3046-4.2009, IDT)

gines-Performance-Part 5.Torsional vibrations)

Note. GB/T 6072.5-2003 Performance of reciprocating internal combustion engines Part 5.Torsional vibration (ISO 3046-5.2001, IDT)

gines-Performance-Part 6.Overspeed protection)

Note. GB/T 6072.6-2000 Performance of reciprocating internal combustion engines Part 6.Overspeed protection (ISO 3046-6.1990, IDT)

ISO 3104 Petroleum products transparent and opaque liquid kinematic viscosity determination method and dynamic viscosity calculation method (Petroleumprod-