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

GB/T 22723-2024

Replacing GB/T 22723-2008

Natural gas - Energy determination

天然气 能量的测定

(English Translation)

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents".

This document replaces GB/T 22723-2008 "Determination of Energy of Natural Gas". Compared with GB/T 22723-2008, in addition to structural adjustments and in addition to editorial changes, the main technical changes are as follows.

- a) Some terms and definitions have been changed (see Chapter 3, Chapter 3 of the 2008 edition);
- b) Added requirements for measuring mass or volume of flowmeters with different measurement principles (see 6.2.2);
- c) Deleted the provisions on volume conversion, verification or calibration, and data storage and transmission for gas measurement (see 6.4, 2008 edition).
6.5, 6.6);
- d) The possible interfaces for energy determination have been changed (see Chapter 7, Chapter 7 of the 2008 edition);
- e) Added instructions for the energy measurement implementation process, and changed the energy measurement strategy from a flowchart to a more operational clause list.
Out (see Chapter 8);
- f) The method of assigning calorific value has been changed (see Appendix C, 8.2.1.5.1,

8.2.1.5.2, Chapter 9 of the 2008 edition).

This document is modified to adopt ISO 15112:2018 "Determination of energy content of natural gas".

This document has the following structural adjustments compared to ISO 15112:2018.

- 6.1 corresponds to 7.2 in ISO 15112:2018;
- 6.2.1, 6.2.2, 6.2.3 correspond to 6.1, 6.2, 6.3 in ISO 15112:2018; the 6.4,6.5,6.6;
- 7.2 corresponds to 8.2 in ISO 15112:2018; 8.1 in ISO 15112:2018 is deleted;
- 8.2 corresponds to 8.3 in ISO 15112:2018;
- Chapter 9 corresponds to Chapter 10 of ISO 15112:2018;
- Chapter 10 corresponds to Chapter 11 of ISO 15112:2018, of which 10.2 to 10.4 correspond to Chapter 11 of ISO 15112:2018 11.1~11.3, increased by 10.1;
- Chapter 11 corresponds to Chapter 12 of ISO 15112:2018;
- Appendix C corresponds to Chapter 9 of ISO 15112:2018, and adds Appendix G and Appendix L;
- The appendix numbers have been adjusted according to the order in which they appear in the text.

The technical differences between this document and ISO 15112:2018 and their reasons are as follows.

- Added normative references GB/T 20604, GB/T 8423.4, JJF1001 (see Chapter 3) to adapt to my country's technical requirements Improve operability;
- Added normative references to GB/T 19205 (see Table 1) to adapt to my country's technical conditions and improve operability;
- Added normative references to GB/T 18603 (see 6.2.1, 7.1, 10.1) to adapt to my country's technical conditions and improve operability Sex;
- Added normative reference SY/T 7552 (see 6.2.1) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 21446 (see 6.2.2.2) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 18604 (see 6.2.2.3) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 21391 (see 6.2.2.4) to adapt to my country's technical conditions and improve operability;

- Added normative reference SY/T 6660 (see 6.2.2.5) to adapt to my country's technical conditions and improve operability;
- Added normative reference SY/T 6659 (see 6.2.2.6) to adapt to my country's technical conditions and improve operability;
- Added normative reference SY/T 7552 (see 6.2.2.7) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 34166 (see 6.2.2.8) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 13609 (see 6.2.3.1) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 35211 (see 6.2.3.2) to adapt to my country's technical conditions and improve operability;
- Added normative reference GB/T 13610 (see 6.2.3.3) to adapt to my country's technical conditions and improve operability;
- ISO 6976 (see 6.2.3.3) has been replaced with the normative reference GB/T 11062 to adapt to my country's technical conditions and improve the reliability of the product.

Operability;

- Changed the description of volume or mass measurement (see Chapter 6, Chapter 6 of ISO 15112:2018), Volume or mass measurement the requirements of GB/T 18603 are cited for explanation;
- Added requirements for flowmeters with different measurement principles to measure mass or volume (see 6.2.2.2 to 6.2.2.8);
- Added the description of the calorific value assignment method (see 6.2.4), which includes the use of historical data assignment, spot test results assignment, value, calculation and assignment using associated site data, sampling and assignment by cumulative sampler, and online continuous sampling and test assignment;
- Deleted the provisions for volume conversion, verification or calibration of gas measurement and data storage and transmission (see ISO 15112:2018 Chapter 6), which is inconsistent with the domestic situation;
- Changed the "Energy determination" section (see Chapter 7, Chapter 7 of ISO 15112:2018), combining the description of the measurement principle GB/T 18603, according to the measurement method and equipment configuration, measurement accuracy level requirements determined by this standard, and different interfaces in response to the request, the possible interface of energy measurement was modified;
- Added instructions for the implementation process of energy measurement, and