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

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Testing of refrigerating systems

制冷系统试验

(English Translation)

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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 is modified to adopt ISO 916:2020 "Refrigeration system tests".

The technical differences between this document and ISO 916:2020 and their reasons are as follows.

--- Change "then this method is not applicable" in the fourth paragraph of 8.1.2 to "then this method can be used as a reference" to improve the applicability of this document;

--- Change the temperature unit K in the whole text to the domestically used °C (see Chapter 4 and 7.2, etc.) for ease of use;

--- ISO/IEC Guide 98-3 is replaced by the normative reference GB/T 27418 to make the measurement method more specific (see 10.1).

The following editorial changes were made to this document.

--- Added notes (see 5.1.2 and 11.3);

--- Replaced ISO 5167 (all parts) with the informative reference GB/T 2624 (all parts) to adapt to my country's technical requirements parts, improve operability (see Chapter 6);

--- Added Appendix A (informative) "Conversion of working conditions results".

1 Scope

This document specifies the performance test of compressor driven refrigeration system (hereinafter referred to as refrigeration system), which is based on vapor compression the refrigeration circuit consists of the compression, condensation, throttling and evaporation circuits as well as the connecting pipes and any necessary auxiliary equipment required for the entire refrigeration circuit.

composition.

This document applies to tests performed in or outside the laboratory and in the absence of specific test standards, according to agreed Test of the refrigeration system under the operating conditions of the this document is not applicable to the testing of other refrigeration systems (such as absorption or steam ejector refrigeration systems) nor to the testing of household Testing of refrigeration systems for specific purposes such as refrigerators, commercial refrigeration and display cabinets, air conditioners, etc.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 27418 Evaluation and Expression of Uncertainty in Measurement (GB/T 27418-2017, ISO/IEC Guide 98-3:2008, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

Q₀

The amount of heat absorbed by the refrigerant from the environment per unit time.

Note: Generally, for a single-stage refrigeration system, the total refrigeration capacity is equal to the refrigerant mass flow rate (hereinafter referred to as refrigerant flow rate) flowing through the evaporator and the refrigerant mass flow rate at the compressor inlet.

and the product of the enthalpy difference of the refrigerant at the outlet of the condenser or subcooler (if provided) (see also 8.1.1).

Q_{on}

The amount of heat absorbed by the refrigerant from the cooled medium in the evaporator per unit time.

Note: See also 8.1.2.

Q_{oe}

The effective heat absorbed by the refrigerant or cooling medium per unit time.

Note: The effective cooling capacity is equal to the product of the mass flow rate of the refrigerant or the medium to be cooled and the enthalpy difference between the two points at which it is effectively cooled according to the regulations (see also 8.1.3).

4 Symbols and units

The parameters, symbols and measuring point indexes involved in this document are shown in Tables 1, 2 and 3.