

ICS 27.200
CCS J 73



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

GB/T 44556-2024

**Refrigerating systems and heat pumps - Qualification of
tightness of components and joints**

制冷系统及热泵 部件和接头的密封性评定

(English Translation)

Issued on: September 29, 2024

Implemented on: April 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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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 is required.

This document is modified to adopt ISO 14903:2017 "Evaluation of the tightness of

components and joints in refrigeration systems and heat pumps".

Compared with ISO 14903:2017, this document has the following structural adjustments.

--ISO 14903:2017 7.6.4.2.1~7.6.4.2.9, 7.6.5.3.1~7.6.5.3.7, 7.6.5.4.6.1~7.6.5.4.6.5 use items Formal representation (see 7.6).

The technical differences between this document and ISO 14903:2017 and their reasons are as follows.

--Replaced ISO 5149-1 and ISO 5149-2 (see Chapter 3, 7.9) with the normative reference GB/T 9237 to adapt to my country's Technical conditions;

-- The symbol N which is not used in the standard has been deleted (see Chapter 4);

-- The normative reference GB/T 44557 replaces ISO 13971, GB 4706.17 replaces IEC 60335-2-34 (see Section 5).

Chapter) to adapt to my country's technical conditions and improve operability;

-- Added the normative reference GB/T 40335-2021 and deleted EN 13185 (see 7.4.2) to adapt to my country's technical requirements parts, improve operability;

--The description of the t_{max} parameter was changed to "the maximum temperature specified by the manufacturer, if not specified, 140 °C" (see Table 8 and Table 9) to provide High test operability, eliminating ambiguity;

--Replace IEC 60068-2-6 with the normative reference GB/T 2423.10, and replace IEC 60068-2-6 with GB/T 2423.56 64 (see 7.6.5.4.5) to adapt to my country's technical conditions and improve operability;

-- The normative references GB/T 1690 replace ISO 1817, GB/T 11547 replace ISO 175 (see 7.11.3), and Adapt to my country's technical conditions and improve operability.

The following editorial changes were made to this document.

--Correct the editorial error of ISO 14903:2017, change "Table 2 and Table 3" in Figure 2 to "Table 1 and Table 2", "Table 4 and

Table 5" was changed to "Table 3 and Table 4";

--Correct the editorial error of ISO 14903:2017, change "Table 12" to "Table 11" in 7.6.5.4.5 Component Test 1 (see 7.6.5.4.5);

--Deleted the note in Table A.1 of ISO 14903:2017.

1 Scope

This document provides the closed and sealed components, joints and Type approval assessment procedure for the sealing performance of parts. The relevant closed and sealed

components, joints and parts mainly refer to accessories, bursting discs, Flange type or assembled components. The sealing performance of flexible pipes made of non-metallic materials is in accordance with GB/T 44557. This document covers the sealing performance of flexible pipes made of non-metallic materials.

Sex tube.

The requirements contained in this document apply to fittings with a nominal size not exceeding DN50 and an internal volume not exceeding 5 L and a mass not exceeding 50 kg of parts.

The purpose of this document is to describe the sealing stresses encountered during operation of components assembled according to the manufacturer's procedures and to give the A list of the minimum necessary information that the supplier provides to the personnel responsible for executing the procedure.

This document specifies the overall tightness level of the components when assembled according to the manufacturer's requirements.

This document applies to closed and sealed components, joints and parts used in refrigeration equipment, including all parts with seals.

Regardless of its material and design.

This document specifies additional requirements for mechanical joints that may be considered as closed joints.

2 Normative references

The contents of the following documents constitute the 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 1690 Test method for resistance of vulcanized rubber or thermoplastic rubber to liquids (GB/T 1690-2010, ISO 1817:2005, MOD) GB/T 2423.10 Environmental testing Part 2: Test methods Test Fc. Vibration (sinusoidal) (GB/T 2423.10-2019, IEC 60068-2-6:2007, IDT) GB/T 2423.56 Environmental testing Part 2: Test methods Test Fh. Broadband random vibration and guidance (GB/T 2423.56-2023, IEC 60068-2-64:2019, IDT) GB 4706.17 Safety of household and similar electrical appliances - Particular requirements for motor-compressors (GB 4706.17-2010, IEC 60335-2-34:2009, IDT) GB/T 9237 Safety and environmental requirements for refrigeration systems and heat pumps (GB/T 9237-2017, ISO 5149-1:2014, ISO 5149-2:2014, ISO 5149-3:2014, ISO 5149-4:2014, MOD) GB/T 11547 Determination of resistance of plastics to liquid chemical reagents (GB/T

11547-2008, ISO 175:1999, MOD) GB/T 40335-2021 Non-destructive testing - Leak detection - Tracer gas method (ISO 20485:2017, MOD) GB/T 44557 Requirements and classification of flexible piping components and non-metallic pipe fittings for refrigeration systems and heat pumps (GB/T 44557-2024, ISO 13971:2012, MOD) EN 1593 Non-destructive testing - Leak testing - Bubble emission technology emission techniques) EN 12693 Refrigerating systems and heat pumps Safety and environmental requirements Positive displacement refrigerant compressors