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

GB/T 22069-2024

Replacing GB/T 22069-2008

Gas engine driven air-condition (heat pump) unit

燃气发动机驱动空调(热泵)机组

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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 22069-2008 "Gas engine driven air conditioning (heat pump) units" and is consistent with GB/T 22069-2008. In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope of the standard has been changed. "Nominal cooling capacity is not more than 85kW" and "machines using electric heating or auxiliary electric heating for heating" have been deleted. Group" (see Chapter 1, Chapter 1 of the.2008 edition);
- b) Changed the terms and definitions of "nominal cooling capacity" and "intermediate cooling capacity", and deleted the term "long-term stable cooling (heat) operation" in "long-term stable cooling (heat) operation" "period" (see 3.2.2~3.2.6, 3.2.11~3.2.15, 3.2.2~3.2.15 of the.2008 edition);
- c) Added "intermediate cooling power consumption", "minimum cooling capacity", "minimum cooling gas heat consumption", and "minimum cooling power consumption" The term "intermediate heating consumes electrical power", "low temperature heating consumes gas heat", "low temperature heating consumes electrical power", and "ultra-low temperature heating capacity" Terms and definitions (see 3.2.7 to 3.2.10, 3.2.16, 3.2.21 to 3.2.23);

- d) The term and definition of "annual performance coefficient" was changed to "annual primary energy performance coefficient" and the code was changed to "APFp" (see 3.2.24, 3.2.16 of the 2008 edition);
- e) Changed the terms and definitions of "low-temperature heating capacity", "gas heat consumed by low-temperature heating" and "low-temperature heating power consumption" to "melting Frost performance heating capacity", "defrost performance gas heat consumption" and "defrost performance electric power consumption" (see 3.2.17~3.2.19, 2008 edition 3.2.12~3.2.14);
- f) The term and definition of "ultra-low temperature heating capacity" has been changed to "low temperature heating capacity" (see 3.2.20, 3.2.15 of the 2008 edition);
- g) Added the terms and definitions of "gas heat consumed by low-temperature heating" and "electric power consumed by low-temperature heating" (see

1 Scope

GB/T 22069-2024 is the Chinese standard for gas engine driven air conditioning and heat pump units, machines in which the compressor is driven by a gas engine rather than an electric motor and the engine's waste heat is recovered into the heating circuit. They exist because they shift a building's winter peak off the electricity grid and onto the gas network, and because the recovered engine heat gives them heating capacity at low ambient temperature that an electrically driven heat pump struggles to match; that also makes them awkward to rate, since their performance has to be accounted in primary energy rather than in electricity alone. The 2024 edition reflects this: the annual performance coefficient becomes the annual primary energy performance coefficient APFp, and the terminology of intermediate, minimum, low-temperature and defrost performance capacities and consumptions is rebuilt. The document sets the types and basic parameters, the technical requirements, the test methods, the inspection rules and the marking, packaging, transport and storage, with four normative annexes covering the testing and calculation of the seasonal energy consumption, which alone runs to twenty-one pages, the gas heat consumption test and the CO and NOx concentration tests. It replaces GB/T 22069-2008, which is superseded, and now covers units of any nominal cooling capacity, excluding only water-cooled condenser units, simultaneous cooling and heating units, units on gases other than natural gas or LPG, and special purpose units.

This document specifies the types and basic parameters, technical requirements, test Inspection methods, inspection rules, as well as marking, packaging, transportation and storage. This document applies to gas engine driven air conditioning (heat pump) units, but does not include the following units.

- a) Units using water-cooled condensers;
- b) Units that can perform both cooling and heating functions;
- c) Units using fuel gas other than natural gas or liquefied petroleum gas;
- d) Other units for special purposes.

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 191 Pictorial markings for packaging, storage and transportation

GB/T 6388 Shipping and receiving marks for transport packaging

GB 11174-2011 Liquefied petroleum gas GB/T 13306 Labels

GB/T 17758-2023 Unitary air conditioner

GB 17820-2018 Natural Gas

GB/T 18837-2015 Multi-connected air conditioning (heat pump) units

GB 25130-2010 Safety requirements for unitary air conditioners

JB/T 7249 Terminology of Refrigeration and Air-conditioning Equipment

3 Terms and definitions

The terms and definitions defined in JB/T 7249 and the following apply to this document.

3.1 A multi-split air conditioning (heat pump) unit with a gas engine as the compressor drive source.

3.2 Cooling (heat) performance

3.2.1 Gas consumption The total heat of gas consumed when the unit is running.

Note. The unit is Watt (W).