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Replacing GB/T 18835-2002

Grain chillers

谷物冷却机

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents". Drafting is scheduled.

This document supersedes GB/T 18835-2002 "Grain Coolers". Compared with GB/T 18835-2002, the only differences are structural adjustments and editorial changes.

Aside from the modifications, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2002 edition);
 - b) The term "air enthalpy difference method" and its definition have been removed (see 3.7 of the 2002 edition).
 - c) Added a classification of grain cooler types (see 4.1);
 - d) The basic parameters of the grain cooler were changed, the test conditions were modified, and water-cooled and evaporative cooling unit types were added.

The basic parameters for bulk grain coolers, packaged grain coolers, and bulk grain flour coolers have been added (see 4.3, 2002 edition). (6.1.2)
 - e) The general requirements and component requirements for grain coolers have been changed (see 5.1, 5.1 and 5.2 in the 2002 edition).
 - f) The requirements for commissioning have been changed (see 5.3, 5.3.2 of the 2002 edition).
 - g) The requirements and test methods for cooling energy efficiency ratio have been changed (see 5.7, 6.2.6, 5.3.6, 6.3.3 and 6.3.4 in the 2002 edition).
 - h) The requirements and test methods for air volume per unit power have been changed (see 5.8, 6.2.4 and 6.2.6, and 5.3.7 and 6.3.4 in the 2002 edition). (and 6.3.5);
 - i) The requirements and test methods for maximum operating cooling have been changed (see 5.10 and 6.2.9, 5.3.9 and 6.3.6 in the 2002 edition).
 - j) Requirements and test methods for cryogenic refrigeration operation have been added (see 5.12 and 6.2.10);
 - k) Added requirements and test methods for water-side pressure loss (see 5.13 and 6.2.11);
 - l) The noise requirements have been changed (see 5.14, 5.3.11 in the 2002 edition).
 - m) The requirements and test methods for insulation resistance, electrical strength, grounding devices, and protection against electric shock have been changed (see 5.17~5.20 and m).
- 6.2.16~6.2.19 (5.1.10 in the 2002 edition).
- n) The requirements and test methods for the water spray test have been removed (see 5.1.10 and 6.3.11 in the 2002 edition).
 - o) The test methods for airflow and cooling capacity of grain coolers have been removed (see Appendix A of the 2002 edition).

Please note that some content in this document may involve patents. The issuing

organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Refrigeration and Air Conditioning Equipment (SAC/TC 238).

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This document was first published in 2002, and this is its first revision. Grain cooler

1 Scope

This document specifies the types and basic parameters, technical requirements, inspection rules, and procedures for marking, packaging, transportation, and storage of grain coolers.

The requirements of the paper are described, along with the corresponding experimental methods.

This document applies to cooling equipment that provides a cold source for the low-temperature storage of grains.

2 Normative references

GB/T 191

GB/T 2423.17

GB/T 2828.1

GB/T 4208

GB/T 4706.1-2024

GB/T 6388

GB/T 9237

GB/T 9286

GB/T 13306

GB 17440

GB/T 17758-2023

GB/T 18430.1-2024

3 Terms and Definitions

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

3.1

Equipment used for low-temperature storage of grain and for providing grain warehouses with air at a certain temperature and humidity.

Note. This mainly includes the refrigeration system, air supply and purification devices, and some also include humidity control and air volume regulation devices.

3.2

A grain cooler used to cool and dehumidify grain silos that are stored at low temperatures in the form of raw grain piles.