STANDARD

ANSI/ASHRAE Standard 72-2022
(Supersedes ANSI/ASHRAE Standard 72-2018)

Method of Testing Open and Closed Commercial Refrigerators and Freezers

Approved by ASHRAE and the American National Standards Institute on June 30, 2022.

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NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE website at www.ashrae.org/technology.

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FOREWORD

ASHRAE Standard 72, first published in 1986, is classified as an ASHRAE standard method of test. This 2022 revision has been reorganized to make the standard easier to read and use. It includes updates in the loading of test simulators and filler material, the sequence of operations during the test; and the instructions for some measurements. It also adds provisions for roll-in racks.

1. PURPOSE

The purpose of this standard is to prescribe a uniform method of testing open and closed refrigerators and freezers for rating so that comparative evaluations can be made of energy consumption, product temperature performance, refrigeration load, the suction pressures required, and other performance factors.

2. SCOPE

This standard applies to the following types of open and closed commercial refrigerators and freezers used for displaying or holding products for which refrigeration is either required or desired:

a. Both horizontal and vertical open and closed refrigerators and freezers
b. Both remote and self-contained open and closed refrigerators and freezers

This standard does not apply to walk-in coolers, or refrigerators and freezers where the refrigerated air is in communication with walk-in coolers.

3. DEFINITIONS

The following definitions apply to terms used in this standard.

closed refrigerator: a display or holding refrigerator where product is accessible for removal by opening or moving doors or panels.

condenser cooling liquid: fluid used as the condensing media in a liquid-cooled, self-contained refrigerator.

condensing unit: an apparatus for processing low-pressure refrigerant vapor back into high-pressure liquid refrigerant.

coolant single-phase temperature difference: the difference in temperature of the secondary coolant entering and leaving the refrigerator.

energy management devices: a system of equipment that energizes or de-energizes electrical loads to achieve a desired use of electrical power. The equipment is intended to control electrical loads by responding to sensors, or transducers monitoring power consumption, by sequencing, by cycling the loads through the use of preprogrammed data logic circuits, or any combination thereof.

filler material: material used for filling the refrigerator net usable volume not occupied by test simulators.

freezer: a refrigerator that maintains product in a frozen state. In this standard, *low-temperature refrigerator* shall be synonymous with *freezer*.

fully open (for drawers): opened not less than 66% of their full travel.

fully open (for hinged doors): opened to an angle of not less than 75 degrees.

fully open (for sliding doors): opened at least 80% of its full normal travel.

lighting occupancy sensor: a device that uses passive infrared, ultrasonic, or other motion-sensing technology to automatically turn off or dim lights within the equipment when no motion is detected in the sensor's coverage area for a certain preset period of time.

liquid-cooled unit: a condensing unit in which the condensing media is a liquid (for example, water).