Department of Energy § 431.132

<table>
<thead>
<tr>
<th>Product</th>
<th>Size</th>
<th>Energy conservation standard a (products manufactured on and after Octo-ber 29, 2003) b</th>
<th>Maximum standby loss c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil-fired instantaneous water heaters and hot water supply boilers.</td>
<td>&lt;10 gal</td>
<td>80%</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>≥10 gal</td>
<td>78%</td>
<td>Q/800 + 110(V_r)^{1/2} (Btu/hr)</td>
</tr>
</tbody>
</table>

Product Size | Minimum thermal insulation |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfired hot water storage tank.</td>
<td>All</td>
</tr>
</tbody>
</table>

a V_m is the measured storage volume and V_r is the rated volume, both in gallons. Q is the nameplate input rate in Btu/hr.
b For hot water supply boilers with a capacity of less than 10 gallons: (1) the standards are mandatory for products manufactured on and after October 21, 2005, and (2) products manufactured prior to that date, and on or after October 23, 2003, must meet either the standards listed in this table or the applicable standards in Subpart E of this Part for a "commercial packaged boiler."
c Water heaters and hot water supply boilers having more than 140 gallons of storage capacity need not meet the standby loss requirement if (1) the tank surface area is thermally insulated to R–12.5 or more, (2) a standing pilot light is not used and (3) for gas or oil-fired storage water heaters, they have a fire damper or fan assisted combustion.


Subpart H—Automatic Commercial Ice Makers

SOURCE: 70 FR 60415, Oct. 18, 2005, unless otherwise noted.

§ 431.131 Purpose and scope.

This subpart contains energy conservation requirements for commercial ice makers, pursuant to Part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311–6317.

§ 431.132 Definitions concerning automatic commercial ice makers.

Automatic commercial ice maker means a factory-made assembly (not necessarily shipped in 1 package) that—

1. Consists of a condensing unit and ice-making section operating as an integrated unit, with means for making and harvesting ice; and

2. May include means for storing ice, dispensing ice, or storing and dispensing ice.

Basic model means, with respect to automatic commercial ice makers, all units of a given type of automatic commercial ice maker (or class thereof) manufactured by one manufacturer and which have the same primary energy source, which have electrical characteristics that are essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

Cube type ice means ice that is fairly uniform, hard, solid, usually clear, and generally weighs less than two ounces (60 grams) per piece, as distinguished from flake, crushed, or fragmented ice.

Energy use means the total energy consumed, stated in kilowatt hours per one-hundred pounds (kWh/100 lb) of ice and stated in multiples of 0.1. For remote condensing automatic commercial ice makers, total energy consumed shall include condenser fan power.

Harvest rate means the amount of ice (at 32 degrees F) in pounds produced per 24 hours.

Ice-making head means automatic commercial ice makers that do not contain integral storage bins, but are generally designed to accommodate a variety of bin capacities. Storage bins entail additional energy use not included in the reported energy consumption figures for these units.

Maximum condenser water use means the maximum amount of water used by the condensing unit (if water-cooled), stated in gallons per 100 pounds (gal/100 lb) of ice, in multiples of 1.

Remote compressor means a type of automatic commercial ice maker in which the ice-making mechanism and compressor are in separate sections.

Remote condensing means a type of automatic commercial ice maker in which the ice-making mechanism and condenser or condensing unit are in separate sections.
§ 431.133 Self-contained means a type of automatic commercial ice maker in which the ice-making mechanism and storage compartment are in an integral cabinet.


TEST PROCEDURES

§ 431.133 Materials incorporated by reference.

(a) General. The Department incorporates by reference the following test procedures into subpart H of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the Federal Register.


[71 FR 71372, Dec. 8, 2006]

§ 431.134 Uniform test methods for the measurement of energy consumption and water consumption of automatic commercial ice makers.

(a) Scope. This section provides the test procedures for measuring, pursuant to EPCA, the energy use in kilowatt hours per 100 pounds of ice (kWh/100 lbs ice) and the condenser water use in gallons per 100 pounds of ice (gal/100 lbs ice).

(b) Testing and Calculations. Determine the energy consumed and the condenser water use rate of each covered product by conducting the test procedures, set forth in the Air-Conditioning and Refrigeration Institute’s Standard 810–2003, “Performance Rating of Automatic Commercial Ice-Makers,” section 4, “Test Requirements,” and section 5, “Rating Requirements.” (Incorporated by reference, see §431.133) Do not use the formula in section 8.3 of ANSI/ASHRAE Standard 29–1988 (RA 2005) for calculating the power consumption, but instead calculate the energy use rate (kWh/100 lbs Ice) by dividing the energy consumed during testing by the total mass of the ice produced during the time period over which energy consumption is measured, normalized to 100 pounds of ice as follows:

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