



ENERGY STAR® Program Requirements for Dehumidifiers

Eligibility Criteria

Below is the Version 2.0 product specification for ENERGY STAR qualified dehumidifiers. A product must meet all of the identified criteria if it is to be qualified as ENERGY STAR by its manufacturer.

- 1) **Definitions:** Below is a brief description of a dehumidifier and other terms as relevant to ENERGY STAR.
 - A. **Dehumidifier:** A dehumidifier is a self-contained, electrically operated, and mechanically refrigerated encased assembly consisting of: (a) a refrigerated surface (evaporator) that condenses moisture from the atmosphere; (b) a refrigerating system, including an electric motor; (c) an air-circulating fan; and (d) means for collecting and/or disposing of the condensate.¹
 - B. **Capacity:** Capacity refers to water removal capacity at standard test conditions, measured in pints per day. Capacity will be calculated according to the test procedure provided in Section 4.
 - C. **Energy Factor:** The energy efficiency of dehumidifiers will be measured in liters of water removed per kilowatt-hour (kWh) of energy consumed at standard test conditions. This metric is defined as the energy factor. Energy factor will be calculated according to the test procedure provided in Section 4.
- 2) **Qualifying Products:** Any dehumidifier that meets the definition in Section 1A, and the requirements below, is eligible to earn the ENERGY STAR.
 - A. **Standard Capacity Dehumidifiers:** Dehumidifiers with daily water-removal capacities up to 75.0 US pints (35.5 Liters).
 - B. **High Capacity Dehumidifiers:** Dehumidifiers with daily water-removal capacities from 75.0 US pints up to 185 US pints (87.5 Liters).
- 3) **Energy-Efficiency Specifications for Qualifying Products:** Only those products listed in Section 2 that meet the criteria outlined in Tables 1, 2 or 3 below may qualify as ENERGY STAR. Effective dates for Tiers 1, 2, and 3 are provided in Section 5 of this specification.

Tier 1: Effective October 1, 2006

Table 1: Tier 1 Criteria for ENERGY STAR Qualified Dehumidifiers

Product Capacity (pints/day)	Energy Factor Under Test Conditions (L/kWh) Effective Date: October 1, 2006
≤ 25	≥ 1.20
> 25 to ≤ 35	≥ 1.40
> 35 to ≤ 45	≥ 1.50
> 45 to ≤ 54	≥ 1.60
> 54 to ≤ 75	≥ 1.60
> 75 to ≤ 185	≥ 2.50

¹ Source: *Performance of Dehumidifiers, National Standard of Canada CAN/CSA-C749-94*. Ontario, Canada 1994 (Reaffirmed 2000).

Tier 2: Effective October 1, 2007

Requirements for Tier 2 of the ENERGY STAR specification for dehumidifiers are identical to those under Tier 1, *except for models with a capacity of 75 pints/day*. As of October 1, 2007, 75 pint models move to the next capacity bin for qualification. This means they will need to have an Energy Factor of ≥ 2.50 L/kWh to earn the ENERGY STAR mark.

Table 2: Tier 2 Criteria for ENERGY STAR Qualified Dehumidifiers

Product Capacity (pints/day)	Energy Factor Under Test Conditions (L/kWh) Effective Date: October 1, 2007
≤ 25	≥ 1.20
> 25 to ≤ 35	≥ 1.40
> 35 to ≤ 45	≥ 1.50
> 45 to ≤ 54	≥ 1.60
> 54 to < 75	≥ 1.60
≥ 75 to ≤ 185	≥ 2.50

Tier 3: Effective June 1, 2008

Requirements for Tier 3 of the ENERGY STAR specification for dehumidifiers are identical to those under Tier 2, *except for products in the > 54 to < 75 pints/day capacity bin*. As of June 1, 2008, products with a capacity of > 54 to < 75 pints/day will need to have an Energy Factor of ≥ 1.80 L/kWh to earn the ENERGY STAR mark.

Table 3: Tier 3 Criteria for ENERGY STAR Qualified Dehumidifiers

Product Capacity (pints/day)	Energy Factor Under Test Conditions (L/kWh) Effective Date: June 1, 2008
≤ 25	≥ 1.20
> 25 to ≤ 35	≥ 1.40
> 35 to ≤ 45	≥ 1.50
> 45 to ≤ 54	≥ 1.60
> 54 to < 75	≥ 1.80
≥ 75 to ≤ 185	≥ 2.50

- 4) Test Criteria: Manufacturers are required to perform tests and self-certify those product models that meet the ENERGY STAR guidelines. The test results must be reported to EPA using the Dehumidifier Qualifying Product Information (QPI) Form.

Tests shall be conducted in accordance with Clauses 4, 5, and 7 of ANSI/AHAM Standard DH-1-2003, except that a watt-hour meter shall be used to measure dehumidifier energy consumption during the capacity rating test. The watt-hour meter shall be accurate within 0.5 percent of the indicated value and have a scale with graduations of 1 watt-hour or less. Energy Factor is to be calculated according to Section 4.2 of CAN/CSA-C749-94 (Reaffirmed 2000).

- 5) Effective Date: The date that manufacturers may begin to qualify products as ENERGY STAR, under the Version 2.0 specification, will be defined as the *effective date* of the agreement. The date that Version 2.0 goes into effect is October 1, 2006. Any previously executed agreement on the subject of ENERGY STAR qualified dehumidifier products shall be terminated effective September 30, 2006.

- A. Qualifying Products Under the Version 2.0 Specification: Tier 1 of the Version 2.0 specification shall commence on **October 1, 2006**. All products with a **date of manufacture** on or after **October 1, 2006**, must meet the new Version 2.0 requirements in order to qualify as ENERGY STAR (i.e., even products originally qualified under Version 1.0 and additional shipments of models originally qualified under Version 1.0 must meet the new requirements). The **date of manufacture** is specific to each unit and is the date (e.g., month and year) on which a unit is considered to be completely assembled.

The second phase of this specification, Tier 2, (applicable to those products with a capacity of 75 pints/day) shall commence on **October 1, 2007**.

The third phase of this specification, Tier 3, (applicable to those models with a capacity of > 54 to < 75 pints/day) shall commence on **June 1, 2008**.

- 6) Future Specification Revisions: EPA reserves the right to revise the specification should technological and/or market changes affect its usefulness to consumers or industry or its impact on the environment. In keeping with current policy, revisions to the specification will be discussed with stakeholders.