



ENERGY STAR® Program Requirements Product Specification for Water Coolers

Eligibility Criteria Final Draft Version 3.0

1 Following is the Final Draft Version 3.0 product specification for ENERGY STAR certified water coolers. A
2 product shall meet all of the identified criteria if it is to earn the ENERGY STAR.

3 **1) Definitions:** Below are the definitions of the relevant terms in this document.

4 A. Water Cooler: A freestanding device that consumes energy to cool and/or heat potable water.
5 Products that have dispensing functions such as sparkling, alkaline, or flavored water, in addition
6 to cold and hot water will also be recognized by the classification below.

7 a. Cold Only Units: Units that dispense cold water only.

8 b. Cook and Cold Units: Units that dispense both cold and room-temperature water.

9 c. Hot and Cold Units: Units that dispense both hot and cold water.

10 d. Hot, Cook, and Cold Units: Units that dispense hot, cold, and room-temperature water. Only
11 units that simultaneously offer all three water temperature choices meet this definition.

12 **Note:** The definition for Hot, Cook, and Cold Units above was amended per stakeholder comments, to
13 reflect that a unit must have the capability to dispense hot, cold, and room temperature water at the same
14 time. Units where room temperature water is only provided when heating elements are deactivated do not
15 qualify for this category. Products must offer room temperature water to users as an alternative to hot or
16 cold water, not as an indirect result of deactivating other features.

17 B. Water Source:

18 a. Bottle: A bottle or reservoir supplies water to the water cooler.

19 b. Point of Use (POU): The water cooler is connected to a pressurized water source.

20 c. Conversion-type Water Cooler: A unit that ships as either Bottle-source or POU and includes a
21 conversion kit intended to convert the Water Cooler from a Bottle-source unit to a POU unit or
22 to convert a POU unit to a Bottle-source unit.

23 C. Water Conditioning:

24 a. Conditioned Storage: Hot and cold thermally conditioned water is stored in tanks located within
25 the body of the water cooler. The conditioned water is available instantaneously.

26 b. On Demand Heating: The unit heats water as it is requested (i.e., without a hot water storage
27 tank), which typically takes a few minutes to deliver. On demand units use storage tanks to
28 condition and provide cold water only.

29 D. Product Family: A group of product models that (1) are manufactured by the same manufacturer,
30 (2) use the same primary energy source, and (3) have electrical characteristics that are essentially
31 identical, and which do not have any differing physical or functional characteristics that affect
32 energy consumption.

33 E. High Capacity Water Cooler: A water cooler with a cold-water dispenser capacity that is greater
34 than 0.50 gallons per hour, as measured per ANSI/ASHRAE Standard 18. For units that also
35 provide hot water, the unit must have a hot-water dispenser capacity greater than 41 exact 6 oz.
36 cups per hour, as rated per ANSI/ASHRAE Standard 18. These products provide adequate
37 capacity for offices or other high-traffic installations.

38 F. Low Capacity Water Cooler: A water cooler with a cold-water dispenser capacity of 0.50 gallons
39 per hour or less, as measured per ANSI/ASHRAE Standard 18. For units that also provide hot
40 water, the unit must have a hot-water dispenser capacity that is equal to or less than 41 exact 6
41 oz. cups per hour, as rated per ANSI/ASHRAE Standard 18. These products provide adequate
42 conditioned water for residential and other low-traffic installations while offering improved energy
43 savings.

44 **Note:** EPA acknowledges the industry’s interest in distinguishing high and low capacity water coolers as
45 appropriate for high-traffic (commercial) and low-traffic (residential) areas, respectively. In Draft 2, EPA
46 proposed new categories for high and low capacity water coolers with distinct efficiency criteria. In addition,
47 EPA introduced definitions for high and low capacity water coolers to reflect stakeholder comments that
48 certain units offer higher dispensed amounts of cold and hot water per hour and that the high capacity units
49 make up a large proportion of sales. In this Final Draft, EPA has revised the proposed definitions for high
50 (Section 1.E.) and low (Section 1.F.) capacity water coolers.

51 Industry stakeholders commented that the previously proposed cold water capacity of 0.61 gallons per hour
52 (GPH) should be revised to 0.50 GPH. EPA further investigated available information from the California
53 Energy Commission’s appliance search database on capacity and on mode with no water draw energy
54 consumption. As there were limited numbers of products with a cold water capacity above 0.50 GPH, EPA
55 concluded that the previous capacity of 0.61 GPH would not be met by a large number of products. In light
56 of this information, EPA determined that in order to include more high capacity water coolers, the cold-water
57 dispenser capacity should be set to >0.50 GPH. This analysis is included in the Final Draft Data Package on
58 Tab 7 ‘Cooling Capacity Analysis’. Out of all products that meet this cold water capacity requirement, 37
59 meet the 0.80 kWh/day proposed level for High Capacity Water Coolers.

60 EPA is also revising the hot-water dispenser capacity proposed limit, to greater than 41 exact 6 oz. cups per
61 hour, based on the same available information. As there are a number of products that have a cold water
62 capacity greater than 0.50 GPH and a hot water capacity of 42 cups per hour, EPA has extended the
63 definition of high capacity units to include these products. Per commenters’ requests, this analysis is
64 included in the Final Draft Data Package on Tab 8 ‘Heating Capacity Analysis’. Out of all products that meet
65 this hot water capacity requirement, 10 models meet the 0.80 kWh/day proposed level for High Capacity
66 Water Coolers.

67 G. Test Modes:

68 a. On Mode with No Water Draw: A test that records the 24-hour energy consumption of a water
69 cooler with no water drawn during the test period. This test is also known as “Standby”.

70 b. On Mode with Water Draw: A test that records the energy delivered in a water draw and the
71 subsequent energy consumed while recovering from that water draw.

72 • Section 6.2. On Mode with Water Draw – All Unit Types Test cold water draw in
73 Conditioned Storage units and On Demand units, and test hot water draw in Conditioned
74 Storage units,

75 • Section 6.3. On Mode with Water Draw – On Demand Units Only Test hot water draw in
76 On Demand units.

77 • Section 7.6. On Mode Water Draw Performance (OMP): A metric for water draw
78 performance that compares the energy delivered and energy consumed by the water
79 cooler.

80 **2) Scope:**

- 81 A. Included Products: Products that meet the definition of a water cooler as specified herein are
 82 eligible for ENERGY STAR certification, with the exception of products listed in Section 2.B.
 83 Products with additional dispensing features including sparkling, alkaline, or flavored water, are
 84 also included in the scope of this specification.
- 85 B. Excluded Products: Units that provide pressurized water and are not free standing (i.e., wall
 86 mounted, under sink, or otherwise building integrated) are not eligible for ENERGY STAR. Air-
 87 source units and other units with a water source other than bottled or tap water (POU) are not
 88 eligible. Units with provisions for making, storing and dispensing small amounts of ice and units
 89 that are primarily ice makers that have a water dispensing function, or that meet the definition of an
 90 Automatic Commercial Ice Maker (ACIM) as defined by the ENERGY STAR Product Specification
 91 for that category, are not eligible for the water cooler product category.

92 **3) Certification Criteria:**

93 A. Energy Efficiency Requirements:

94 **Table 1: Energy-Efficiency Criteria for Certified Water Coolers**

Product Type	Conditioning Method	Capacity	On Mode with No Water Draw (kWh/day)	OMP for Cold Water Draw	OMP for Hot Water Draw
Cold Only & Cook and Cold units	Conditioned Storage	All	≤ 0.16	Reported	N/A
Hot and Cold & Hot, Cook, and Cold Units	Conditioned Storage	Low-Capacity	≤ 0.68	Reported	Reported
		High-Capacity	≤ 0.80	Reported	Reported
Hot and Cold & Hot, Cook, and Cold Units	On Demand Heating	All	≤ 0.18	Reported	Reported

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- 96 B. Significant Digits and Rounding:
- 97 a. All calculations shall be carried out with actual measured or observed values. Only the final
 98 result of a calculation shall be rounded. Calculated results shall be rounded to the nearest
 99 significant digit as expressed in the corresponding specification limit.
- 100 b. Unless otherwise specified, compliance with specification limits shall be evaluated using
 101 exact values without any benefit from rounding.
- 102 C. Additional Reporting Requirements:
- 103 a. Report the cold water capacity per hour, tested per ANSI/ASHRAE 18-2008 (RA 2013),
 104 Section 5.7 Capacity Test for Ratings, in gallons per hour.
- 105 b. For all hot and cold and hot, cook, and cold units, report the hot water capacity per hour,
 106 tested per ANSI/ASHRAE 18-2008 (RA 2013), Section 5.8 Hot-Water-Dispenser Capacity
 107 Test, in number of exact 6 fl oz draws per hour.

108 c. Report the type of refrigerant used in the respective water cooler unit, for example: R-410A,
 109 R-134a, or R-290.

110 **4) Test Requirements:**

- 111 A. A representative model shall be selected for testing per the following requirements:
- 112 a. For certification of an individual product model, the representative model shall be
 113 equivalent to that which is intended to be marketed and labeled as ENERGY STAR.
- 114 b. For certification of a product family, any model within that product family can be tested and
 115 serve as the representative model.
- 116 B. When testing water coolers, the following test method shall be used to determine ENERGY STAR
 117 certification.

118 **Table 2: Test Method for ENERGY STAR Certification**

ENERGY STAR Requirement	Conditioning Method	Test Method Reference
On Mode with No Water Draw	Conditioned Storage and On Demand	ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.1 and 7.1
OMP for Cold Water Draw*	Conditioned Storage and On Demand Heating	ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.2 and 7.6
OMP for Hot Water Draw*	Conditioned Storage	ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.2 and 7.6
	On Demand Heating	ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.3 and 7.6
Cold-Water Dispenser Capacity	Conditioned Storage and On Demand Heating	ANSI/ASHRAE 18-2008 (RA 2013) 5. Methods of Testing
Hot-Water Dispenser Capacity	Conditioned Storage and On Demand Heating	ANSI/ASHRAE 18-2008 (RA 2013) 5.8 Hot-Water-Dispenser Capacity Test

119 * Note: OMP for Cold Water Draw and OMP for Hot Water Draw are required for reporting only.

120 **5) Effective Date:** This ENERGY STAR Water Cooler Specification shall take effect on **March 1, 2022**.
 121 To qualify for ENERGY STAR, a product model shall meet the ENERGY STAR specification in effect
 122 on the model's date of manufacture. The date of manufacture is specific to each unit and is the date on
 123 which a unit is considered to be completely assembled.

124 **6) Future Specification Revisions:** EPA reserves the right to change the specification should
 125 technological and/or market changes affect its usefulness to consumers, industry, or the environment.
 126 In keeping with current policy, revisions to the specification are arrived at through industry discussions.
 127 In the event of a specification revision, please note that the ENERGY STAR certification is not
 128 automatically granted for the life of a product model.