



ENERGY STAR® Water Coolers

Version 3.0 Specification and Test Method Discussion Guide

November 2019

Overview

The U.S. Environmental Protection Agency (EPA) is sharing this ENERGY STAR Version 3.0 Water Coolers Discussion Guide to invite stakeholder input on key topics for discussion prior to developing and releasing a Draft 1 Version 3.0 specification. EPA will host a webinar on **December 5, 2019**, to seek input from stakeholders on the topics outlined below. Please submit feedback and any relevant data to watercoolers@energystar.gov by **December 19, 2019**.

The key drivers for this revision include the following:

- Technological innovations that provide an opportunity to recognize more efficient models;
- Growing ENERGY STAR market share;
- Clarifying definitions and scope;
- Evaluating any adjustments to the ENERGY STAR Water Coolers Test Method due to scope expansion and compelling data specific to temperature set points.

The ENERGY STAR [Unit Shipment Data Summary Report](#) indicates that ENERGY STAR certified water coolers represent 62% of all units shipped in the United States in 2018. This high level of market share presents an opportunity to review the specification to ensure it continues to recognize top performing products and that the ENERGY STAR label continues to deliver meaningful energy savings to consumers.

Stakeholder engagement is key to the success of the ENERGY STAR program and to the [product specification development process](#). The [ENERGY STAR Standard Operating Procedure](#) on revising and establishing product specifications highlights the reliance on stakeholder and partner supplied data and insights on trends and the market. As such, EPA looks forward to working closely with stakeholders to revise the ENERGY STAR water cooler specification.

Energy Savings Potential

EPA sees a growing opportunity to expand the recognition and value of the ENERGY STAR label for water coolers. While there is a dominant commercial leasing market, there has been significant growth in new equipment sales in commercial and residential markets. Information about market size, as well as lifetime of leased and directly sold units, are key to determining energy savings and the extent to which ENERGY STAR can effectively differentiate the more efficient models for a range of purchasers.

1. What is the market distribution for water cooler products? What percentage of units are leased vs. directly purchased? What percentage are used in commercial vs. residential settings? Are stakeholders aware of a market report that would provide this data?
2. Are there energy performance differences between leased versus sold units and units aimed at commercial versus residential customers? If so, what are the defining characteristics of each?
3. Are there typical use schedules that manufacturers recommend for estimating yearly savings?
4. What is the anticipated lifetime for these units, including direct purchased and leased products?
5. Are there any emerging technologies for water coolers (e.g. thermoelastic refrigeration) and best practices for efficient product design in this category? Are there any other trends in this industry that the ENERGY STAR program should consider?

Test Method Scope Considerations

The current Version 2.0 specification references the ENERGY STAR Test Method for Water Coolers (Rev. May-2013), which is used to determine On Mode with No Water Draw. In addition to revising the current criteria for the “On Mode with No Water Draw,” which can be used to differentiate products that perform well under standby conditions, EPA is evaluating the opportunity to introduce criteria based on the “On Mode Test with Water Draw – All Unit Types” and “On Mode Test with Water Draw – On Demand Units Only” which are both included in the current test method. With the addition of these criteria, the specification could capture the energy use of replenishing water for storage-type units and conditioning water for on demand-type units. Stakeholders are encouraged to provide performance data using the “On Mode Test with Water Draw” as currently defined in the ENERGY STAR test procedure.

Industry comments to EPA indicate that test procedure set points are often used as the default set point for products shipped to end users, and the $\geq 165^{\circ}\text{F}$ hot water and $\leq 50^{\circ}\text{F}$ cold water dispensed water temperatures as defined may not align with consumer preferences. Stakeholder feedback indicates that 185°F for hot water and 47°F for cold water may be more appropriate dispensed temperatures. If manufacturers support changing these temperatures and can provide test data (see below) that can be used to set appropriate criteria, EPA will consider revising the dispensed temperatures in the test method for Version 3.0 of this specification.

1. Do manufacturers support revising set point temperatures?
2. How would the alternate proposed dispensed cold and hot water temperatures affect the measured performance and energy consumption of these products?
3. Are there other factors that should be taken into consideration when assessing potential modification to the water coolers test method?

Clarifying Definitions and Scope for this Specification

Products that provide a range of additional features such as sparkling or alkaline water have been added to the ENERGY STAR certified product list under Version 2.0. EPA seeks to clarify definitions and scope during the development of Version 3.0 such that all partners are clear on product types covered by this specification.

With the Version 3.0 specification, EPA will also evaluate whether power used by dispensing mechanisms is captured by the current test method and, if not, how the energy-use of products with such features varies from that of a standard product.

1. Does the current test method capture the energy use of these features through either the “On Mode with No Water Draw” test or the “On Mode with Water Draw” tests?
2. How does energy use of units with these features vary from that of standard products without these features both in the “On Mode with No Water Draw” test and “On Mode with Water Draw” tests?
3. How prevalent are features such as flavor, integrated sparkling and alkaline?

Alternative Refrigerants and Foams

In other ENERGY STAR refrigeration products such as commercial and lab-grade refrigerators and freezers, EPA highlights for consumers on its certified product lists the presence of low Global Warming Potential (GWP) refrigerants. EPA also seeks to highlight low-GWP insulating foams in a similar fashion.

1. Are water cooler brand owners making use of alternative refrigerants?
2. Do consumers of water coolers seek products with alternative refrigerants? Would it be helpful to partners for EPA to highlight this feature in the ENERGY STAR Product Finder?
3. Are water cooler brand owners making use of low-GWP insulating foams, and are there market or regulatory influences to do so?
4. Do consumers of water coolers seek products with low-GWP insulating foams? Would it be helpful to partners for EPA to highlight this feature in the ENERGY STAR Product Finder?
5. Are there any other insulation features to consider in the specification revision for ENERGY STAR Water Coolers?

Data Collection

EPA welcomes any additional data for water cooler products eligible under the ENERGY STAR specification. Provided with this discussion guide is a Water Coolers Data Template which stakeholders are requested to use to provide test results for the current test method, as well as data with alternate dispensed water temperatures. EPA will accept performance data on all types of water coolers for consideration through the comment period deadline of this discussion guide, and specifically requests the following information:

1. Test results for the “On Mode with no Water Draw – All Unit Types” test for non-certified products
2. Test results for the “On Mode with Water Draw – All Unit Types” test
3. Test results for the “On Mode with Water Draw– On Demand Units Only” test
4. Test results for the above three tests, for units with additional dispensing features
5. Test results for the above three tests at the alternate proposed dispensed temperatures, 185°F for the hot water draw set point and 47°F for the cold water draw set point for ENERGY STAR certified and non-certified units

Tentative Timeline

- Discussion Guide: November 2019
- Stakeholder Webinar & Comment Deadline: December 2019
- Draft 1 Version 3.0 and Webinar: Winter 2020
- Draft 2 Version 3.0: Spring 2020
- Final Draft: Summer 2020
- Final: Summer 2020

Please send any written comments and data to watercoolers@energystar.gov no later than **December 19, 2019**. If you have any questions, please feel free to contact Tanja Crk, EPA, at Crk.Tanja@epa.gov and (202) 566-1037 or Julia Hegarty, ICF, at Julia.Hegarty@icf.com and (202) 862-1163.