



# ENERGY STAR® Program Requirements Product Specification for Residential Dishwashers

## Eligibility Criteria Draft Version 5.2

Note: The Federal minimum efficiency standard for compact residential dishwashers manufactured on or after May 30, 2013, are equivalent to the current ENERGY STAR requirements for compact units. This situation has prompted the U.S. Environmental Protection Agency (EPA) to propose a set of steps to help minimize the potential for customer confusion during the time it takes to establish new requirements that more effectively differentiate energy efficient compact dishwashers from standard models.

This proposal sets up what EPA intends to be a reasonable transition process and proposes an amendment to the Version 5.1 dishwasher specification, consistent with that process. Specifically, EPA proposes:

- 1.) Effective July 29, 2013 (60 days after manufacturers are required to comply with the amended Federal standard), certification bodies (CBs) would be asked to stop certifying new compact dishwashers to ENERGY STAR.
- 2.) Compact dishwashers certified to ENERGY STAR Version 5.1 or Version 5.2 would remain qualified through December 31, 2013. After this date, all compact models would be removed from the qualified product list and could no longer be promoted as ENERGY STAR.

EPA has amended Section 2B and Section 3 of this document to reflect this proposal. For clarity, the month/year of the final Version 5.2 will be noted in the specification footer.

EPA and U.S. Department of Energy (DOE) have also updated Section 1 to also include the definitions of a compact dishwasher and a standard dishwasher from 10 CFR 430 Subpart B Appendix C1. These definitions are applicable for models tested and certified to ENERGY STAR using Appendix C1; this DOE test method is required for models certified beginning May 30, 2013.

EPA encourages stakeholders to submit comments on this proposal to [appliances@energystar.gov](mailto:appliances@energystar.gov) by May 20, 2013.

Following is the draft **Version 5.2** ENERGY STAR Product Specification for Residential Dishwashers. A product shall meet all of the identified criteria if it is to earn the ENERGY STAR.

### 1) Definitions

- A. Dishwasher: A cabinet-like appliance which with the aid of water and detergent, washes, rinses, and dries (when a drying process is included) dishware, glassware, eating utensils, and most cooking utensils by chemical, mechanical and/or electrical means and discharges to the plumbing drainage system.
  - a. Compact Dishwasher (applicable when testing using Appendix C): A dishwasher that has a capacity of less than eight place settings plus six serving pieces as specified in ANSI/AHAM DW-1 (as incorporated by reference in 10 CFR § 430.22), using the test load specified in section 2.7 of 10 CFR 430, Subpart B, Appendix C.

- b. Compact Dishwasher (applicable when testing using Appendix C1): A dishwasher that has a capacity of less than eight place settings plus six serving pieces as specified in ANSI/AHAM DW-1-2010 (incorporated by reference; see § 430.3), using the test load specified in section 2.7 of 10 CFR 430, Subpart B, Appendix C1.
  - c. Standard Dishwasher (applicable when testing using Appendix C): A dishwasher that has a capacity equal to or greater than eight place settings plus six serving pieces as specified in ANSI/AHAM DW-1 (as incorporated by reference in 10 CFR § 430.22), using the test load specified in section 2.7 of 10 CFR 430, Subpart B, Appendix C.
  - d. Standard Dishwasher (applicable when testing using Appendix C1): A dishwasher that has a capacity equal to or greater than eight place settings plus six serving pieces as specified in ANSI/AHAM DW-1-2010 (incorporated by reference; see § 430.3), using the test load specified in section 2.7 of 10 CFR 430, Subpart B, Appendix C1.
  - e. Portable Dishwasher: A dishwasher which is not permanently connected to the household water and electric supply lines. It can be mounted on wheels and easily moved from one place to another in normal use. This definition includes dishwashers intended to be used on a countertop or table.
- B. Basic Model: All units of a given type of product (or class thereof) manufactured by one manufacturer, having the same primary energy source, and which have essentially identical electrical, physical, and functional (or hydraulic) characteristics that affect energy consumption, energy efficiency, water consumption, or water efficiency.

## 2) Scope

- A. Included Products: Products that meet the definition of a dishwasher as specified herein and a consumer product as specified in 10 CFR § 430.2 are eligible for ENERGY STAR qualification under this specification.
- B. Excluded Products: Product types not specifically identified in Section 2.A are not eligible for ENERGY STAR qualification under this specification. Products that are covered under other ENERGY STAR product specifications (e.g., Commercial Dishwashers) are not eligible for qualification under this specification. After December 31, 2013, compact dishwashers are no longer eligible for ENERGY STAR qualification under this specification.

## 3) Qualification Criteria

- A. Energy and Water Performance:

**Table 1: Energy and Water Performance Requirements**

	<b>Water</b> (gallons per cycle)	<b>Energy</b> (kWh per year)
Standard	≤ 4.25	≤ 295
Compact through 12/31/2013	≤ 3.50	≤ 222
Compact after 12/31/2013	NA	NA

B. Significant Digits and Rounding:

- a. All calculations shall be carried out with directly measured (unrounded) values.
- b. Unless otherwise specified, compliance with specification limits shall be evaluated using directly measured or calculated values without any benefit from rounding.
- c. Directly measured or calculated values that are submitted for reporting on the ENERGY STAR website shall be rounded to the nearest significant digit as expressed in the corresponding specification limit.

C. Model Numbers: Model numbers used for ENERGY STAR qualified product submissions shall be consistent with Federal Trade Commission (FTC) and Department of Energy (DOE) submissions.

#### 4) Test Requirements

- A. One of the following sampling plans shall be used to test for qualification to ENERGY STAR:
  - a. A representative unit shall be selected for testing based on the definition for Basic Model provided in Section 1. above; or
  - b. Units shall be selected for testing per the sampling requirements defined in 10 CFR § 429.19, which references 10 CFR § 429.11.
- B. When testing residential dishwashers, the test methods specified in Table 2 shall be used to determine ENERGY STAR qualification:

**Table 2: Test Methods for ENERGY STAR Qualification**

ENERGY STAR Requirement	Test Method Reference
Energy Consumption (kWh/year)	10 CFR 430, Subpart B, Appendix C or
Water Consumption (gallons/cycle)	10 CFR 430, Subpart B, Appendix C1 (required for models certified beginning May 30, 2013)

#### 5) Effective Date

The ENERGY STAR Residential Dishwasher specification shall take effect on the dates specified in Table 3. To qualify for ENERGY STAR, a product model shall meet the ENERGY STAR specification in effect on the date of manufacture. 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.

**Table 3: Specification Effective Date**

Effective Date
January 20, 2012

#### 6) Future Specification Revisions

- A. EPA reserves the right to change the specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions. In the event of a specification revision, please note that the ENERGY STAR qualification is not automatically granted for the life of a product model.

- B. EPA intends to continue its investigation of the following topics specific to the Residential Dishwashers specification:
- a. Cleaning Performance – EPA plans to propose a cleaning performance requirement for Tier 2 as part of the next ENERGY STAR specification revision process.
  - b. Smart Grid – EPA will continue to consider the opportunity for ENERGY STAR to address and encourage smart grid functionality in residential dishwashers. To support this, EPA encourages partners and other interested stakeholders to share information including key features and functionality of interest, the consumer benefit associated with such functionality, how savings should be measured and verified, and any price differential for a product with such functionality.