



ENERGY STAR® Program Requirements Product Specification for Residential Dishwashers

Eligibility Criteria Version 5.0

Following is the **Version 5.0** 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: 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. Standard Dishwasher: 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.
 - c. 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.

3) Qualification Criteria

A. Energy and Water Performance:

Table 1: Energy and Water Performance Requirements

| Product Type | Tier 1 | | Tier 2 | |
|----------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------|------------------------------|--------------------------|
| | Water (gallons per cycle) | Energy (kWh per year) | Water (gallons per cycle) | Energy (kWh per year) |
| Standard | ≤ 4.25 | ≤ 295 | TBD | TBD |
| Compact | ≤ 3.50 | ≤ 222 | TBD | TBD |
| Note: A portable dishwasher may qualify as a standard or compact dishwasher, depending on its capacity. | | | | |

B. Cleaning Performance (Tier 2 Only): TBD

C. Significant Digits and Rounding:

- All calculations shall be carried out with directly measured (unrounded) values.
- Unless otherwise specified, compliance with specification limits shall be evaluated using directly measured or calculated values without any benefit from rounding.
- 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.

D. 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 representative unit shall be selected for testing based on the definition for Basic Model provided in Section 1. above; or
- 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 |
| Water Consumption (gallons/cycle) | |

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 Dates

| Tier 1 Effective Date | Tier 2 Effective Date |
|-----------------------|-----------------------|
| January 20, 2012 | January 1, 2014 |

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.