



Food Waste Disposers

FWD-1-2009

(Revision of AHAM FWD-1-2005)



Leadership > Knowledge > Innovation

PREFACE

The Association of Home Appliance Manufacturers develops standards in accordance with AHAM's "Policy and Procedures Governing Technical Standards" which states:

AHAM Standards shall be in the best interest, mutually, of consumers who use appliances, the industries which provide and service appliances, and other interested parties. They shall relate to actual use conditions, be technically and scientifically sound"

Use or observance of AHAM standards is voluntary.

This standard contains test procedures which may be applied to any brand or model of household food waste disposer for measuring performance. Results of tests in accordance with this standard may be publicly stated.

With regard to safety, AHAM recommends that all appliance products - both major and portable -- manufactured or marketed in the United States be submitted to an appropriate independent laboratory such as Underwriters Laboratories Inc., or the American Gas Association Laboratories, Inc. for inspection and listing in conformance with the safety standards and procedures followed by such laboratories. The relevant standard for disposers is ANSI/UL 430, "Standard for Waste Disposers".

AHAM welcomes comments and suggestions regarding this standard. Any standard may be reviewed and improved as needed. All Standards must be updated or reconfirmed at least every five years. Any interested party, at any time, may request a change in an AHAM standard. Such request should be addressed to AHAM's President, and should be accompanied by a statement of reason for the request and a suggested alternate proposal.

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CONTENTS

Section	Page
1. PURPOSE	1
2. SCOPE	1
3. DEFINITIONS	1
4. GENERAL CHARACTERISTICS	2
5. NAMEPLATE INFORMATION	2
6. TEST PROCEDURE	3
7. SAFETY AND SANITATION	8
APPENDIX A	9
APPENDIX B	10
APPENDIX C (Informative)	17

1. PURPOSE

1.1 This standard establishes a uniform, repeatable procedure or standard method for measuring specified product characteristics of household food waste disposer units.

1.2 The standard methods provide a means to compare and evaluate different brands and models of food waste disposer units regarding characteristics significant to product use.

1.3 The standard methods are not intended to inhibit improvement and innovation in product testing, design or performance.

2. SCOPE

2.1 This standard applies to household food waste disposer units and is intended to cover definitions, general characteristics, nameplate information, construction characteristics, test procedures, safety and sanitation.

3. DEFINITIONS

3.1 Dishwasher discharge connection. An opening to permit the discharge from a household electric dishwasher to be drained into a food waste disposer unit.

3.2 Drain outlet. A physical part of the food waste disposer unit construction or a fitting supplied with a food waste disposer unit to permit connection to the household plumbing drainage system.

3.3 Food waste. Perishable food refuse resulting from the preparation, handling, serving and scrapping of food in a household during normal food preparation.

3.4 Food waste disposer unit. A device installed in a household kitchen sink outlet, supplied with water from the kitchen sink supply faucet, and discharging into the household plumbing drainage system. Its function is to reduce food waste to particle sizes which, with the aid of water, are flushed into the plumbing drainage system.

3.4.1 Batch feed type. A food waste disposer unit type which is loaded with food waste before it is energized and requires the locating of a device (usually used also as a sink stopper) in the feed opening of the disposer prior to starting the food waste disposer unit, food cannot be added until the device is removed.

3.4.2 Continuous feed type. A food waste disposer unit type that can be loaded with food waste continuously and is usually operated by a remote electrical switch.

3.5 Grinding chamber. The space or cavity above the grinding wheel within the disposer that receives and contains food waste prior to and during the food waste reduction process,

3.6 Grind ring. A circular ring with projections located in the lower area of the grinding chamber against which the food waste is pulverized by abrasive or grinding action.

3.7 Grind wheel. A rotating plate at the bottom of the grinding chamber which impels food waste by centrifugal force against the side walls of the grinding chamber or grind ring, sometimes identified as a grind wheel, fly wheel or turntable.

3.8 Insulation. The sound absorbing material that surrounds the exterior of some grinding chambers and/or the resilient mount. It is utilized to reduce vibration noise produced by the food waste disposer unit operation.

3.9 Jam. A food waste loading condition that causes the motor to enter a locked rotor condition.

3.9.1 Running jam. A jam that occurs when the food waste disposer unit is grinding the food load (running).

3.9.2 Start jam. A jam that occurs when the food waste disposer unit is started or restarted with food load in the grinding chamber.

3.10 Sink flange. A device fastened to the sink drain opening, 3½ inches (89 mm) nominal, with a means to attach the food waste disposer unit and providing a water tight seal.

3.11 Splash guard. A device made of flexible material placed at the opening of continuous feed type food waste disposer units to help prevent the spewing of waste from the opening.

4. GENERAL CHARACTERISTICS

4.1 Mounting Means. Sink mounted food waste disposer units should be designed to fit a sink with a 3½ inch (89 mm) nominal drain opening. This is the nominal drain opening size to which sinks are designed.

4.2 Product Identification Placement. The preferred location of the nameplate information for food waste disposer units is on the side of the disposer most likely to be viewable after installation. Typically this would be on the side opposite the drain outlet. If two designations are used they typically would be placed on opposite sides 90 degrees from the drain outlet. An alternate location of the name plate information is on the bottom of the unit.

5. NAMEPLATE INFORMATION

The following information should be included on the nameplate of each food waste disposer unit:

- a. Voltage (V)
- b. Frequency (Hz)
- c. Input in amperes (A) or watts (w)
- d. Brand name and address of merchandiser
- e. Model designation and serial number
- f. Date code

6. TEST PROCEDURE

6.1 General Test Conditions

6.1.1 Voltage and Frequency. Operate food waste disposer unit at rated voltage and rated frequency unless otherwise specified.

6.1.2 Supply Water Temperature. The temperature of the supply water used is not to exceed 80°F (27°C).

6.1.3 Beef Rib Bone Preparation. Prepare cooked beef rib bones by boiling for 1 to 2 hours in a covered container of water. Rinse in hot water at end of boiling period. Remove gristle remaining on bones. Remove moisture in cooked bones by drying in preheated oven for 1 hour at 300°F (148.9°C).

6.1.4 Test Load Tolerance. All measurements (pounds/grams) of test loads are to have a tolerance of $\pm 5\%$ unless otherwise specified.

6.1.5 Each test shall be conducted 3 times on one unit and the results will be averaged.

6.2 Fineness Test

6.2.1 Test Set-Up. Test set up is to be as shown in Figure 1.

6.2.2 Test Load. The test load is to consist of:

$\frac{1}{4}$ lb (113 g) $\pm 5\%$ Cooked beef rib bones, 1 to 2 inches (25 to 50 mm) long, prepared as specified in 6.1.3.

$\frac{1}{4}$ lb (113 g) $\pm 5\%$ Celery, including top or leaves. 4 inch (100 mm) cut lengths.

$\frac{1}{4}$ lb (113 g) $\pm 5\%$ Carrots (raw), no tops. 4 inch (100 mm) cut lengths.

$\frac{1}{4}$ lb (113 g) $\pm 5\%$ Lettuce leaves.

6.2.3 Test Procedure. Mix test load and feed into an operating continuous feed type food waste disposer unit with water supplied at the rate of 1.5 gal/min (0.095 L/s). For batch feed type food waste disposer units, fill grinding chamber loosely with as much of the test load as it will accommodate. Supply water at the rate of 1.5 gal/min (0.095 L/s) and operate food waste disposer unit until test load is discharged completely. Repeat, if necessary, until 1 lb of test load has been used.

Collect all ground waste discharge from food waste disposer unit on a nest of sieves stacked as follows: #40 (0.425 mm) on bottom, #8 (2.36mm) next, $\frac{1}{4}$ inch (6.35 mm) next and $\frac{1}{2}$ inch (12.7 mm) size sieve on top of stack.

Using a spray nozzle as identified in Appendix A, adjusted to give a 3 gal/min (0.19 L/s) flow rate, wash retained waste through sieves, collecting material washed through larger sieves on the successive smaller size sieves. Hold spray nozzle 1 ft (0.30 m) above each sieve and wash down for 15 s moving spray over the entire sieve area. The angle of the spray stream is to be at 90° to the plane of the sieve.