



Standard Specification for Powered Pot, Pan and Utensil Washing Sinks¹

This standard is issued under the fixed designation F2643; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers commercial powered pot, pan and utensil washing sinks.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

~~1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.~~

1.3 The following safety hazards caveat pertains only to the test methods portion, Section 12, of this specification: This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.4 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 *ASTM Standards:*²

[A29/A29M Specification for General Requirements for Steel Bars, Carbon and Alloy, Hot-Wrought](#)

[A120 Specification for Pipe, Steel, Black and Hot-Dipped Zinc-Coated \(Galvanized\) Welded and Seamless for Ordinary Uses; Replaced by A 53 \(Withdrawn 1987\)](#)³

[A240/A240M Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications](#)

[A276 Specification for Stainless Steel Bars and Shapes](#)

[A436 Specification for Austenitic Gray Iron Castings](#)

[A554 Specification for Welded Stainless Steel Mechanical Tubing](#)

[A582/A582M Specification for Free-Machining Stainless Steel Bars](#)

[B43 Specification for Seamless Red Brass Pipe, Standard Sizes](#)

[B75 Specification for Seamless Copper Tube \(Metric\) B0075_B0075M](#)

[B127 Specification for Nickel-Copper Alloy Plate, Sheet, and Strip](#)

[F760 Specification for Food Service Equipment Manuals](#)

[F2379 Test Method for Energy Performance of Powered Open Warewashing Sinks](#)

2.2 *Federal Regulations:*⁴

[OSHA Title 29 Chapter XVII, Part 1910](#)

¹ This specification is under the jurisdiction of ASTM Committee F26 on Food Service Equipment and is the direct responsibility of Subcommittee F26.01 on Cleaning and Sanitation Equipment.

Current edition approved Aug. 1, 2015 June 1, 2020. Published September 2015 July 2020. Originally approved in 2007. Last previous edition approved in 2009 2015 as F2643 – 09 F2643 – 15. DOI: 10.1520/F2643-15.10.1520/F2643-20.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, http://www.access.gpo.gov.

2.3 *American National Standards:*⁵

ANSI S1.4 Specification for Sound Level Meters

ANSI S1.13 Methods for the Measurement of Sound Pressure Levels

2.4 *National Electrical Manufacturers Association Standards:*⁶

NEMA ICS Industrial Controls and Systems

NEMA MG-1 Motors and Generators

2.5 *National Fire Protection Association Standards:*⁷

NFPA No. 70 National Electrical Code

2.6 *NSF International Standards:*⁸

NSF/ANSI 2 Food Equipment

NSF/ANSI 51 Plastic Materials and Components Used in Food Equipment

NSF Listings Food Equipment

2.7 *Underwriters Laboratories Standards:*⁹

UL 921 Commercial Electric Dishwashers

2.8 *ASSE International Standards:*¹⁰

ASSE 1001 Pipe Applied Atmospheric Vacuum Breakers

3. Terminology

3.1 *Definitions:*

3.2 *powered pot, pan and utensil washing sink, n*—an all-purpose, stainless steel water basin with electrically powered water pump(s) and multiple high flow water nozzles designed for cleaning pots, pans and utensils.

3.2.1 *Discussion*—

The main washing basin holds 50 to 100 gal (189 to 379 L) of heated water. The unit may or may not feature a scrapper sink (with or without a disposer), rinse tank, sanitizing tank, or a drain table, or a combination thereof. The machines shall consist of the following principal parts: legs, wash basin, rinse basin, sanitizing basin, clean and soiled end drain boards, spray nozzles, pump, motor, controls, and piping. May or may not be provided with an electric heater, faucet, pre-rinse spray hose and other accessories.

4. Classification

4.1 *General*—Powered pot, pan and utensil washing sink shall be of the following types, styles, classes, size, and capacity group, as specified:

4.2 *Types:*

4.2.1 *Type I (Right-to-Left)*—This machine is designed with the utensil flow from the right to the left as you are facing the machine.

4.2.2 *Type II (Left-to-Right)*—This machine is designed with the utensil flow from the left to the right as you are facing the machine.

4.3 *Styles and Classes:*

4.3.1 *Style 1* (electrically heated wash tank).

4.3.1.1 *Class A* (single temperature set point)

4.3.1.2 *Class B* (dual temperature set points)

4.3.2 *Style 2* (no heat).

4.4 *Size and Capacity:* Sizes are as follows:

4.4.1 *Drainboards, soiled and clean ends*—(typically 12, 18, 20, 24, 30, 36, 42, 48, 54, or 60 in. (30, 46, 51, 61, 76, 91, 107, 122, 137, or 152 cm))

4.4.2 *Scrapper section*—(typically 20 or 36 in. (51 or 91 cm)). May or may not be provided with a disposer.

4.4.3 *Wash Sink*—(typically 30, 32, 36, 42, 48, 54, or 60 in. (76, 81, 91, 107, 122, 137, or 152 cm)).

4.4.4 *Rinse Sink*—(typically 15, 18, 20, 24, 30, or 36 in. (38, 46, 51, 61, 76, or 91 cm)).

4.4.5 *Sanitizer Sink*—(typically 18-1/2, 20, 24, 30, or 36 in. (47, 51, 61, 76, or 91 cm)).

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁶ Available from National Electrical Manufacturers Association (NEMA), 1300 N. 17th St., Suite 1752, Rosslyn, VA 22209, <http://www.nema.org>.

⁷ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

⁸ Available from NSF International, P.O. Box 130140, 789 N. Dixboro Rd., Ann Arbor, MI 48113-0140, <http://www.nsf.org>.

⁹ Available from UL LLC, 333 Pfingsten Rd., Northbrook, IL 60062-2096, <http://www.ul.com>.

¹⁰ Available from ASSE International, 18927 Hickory Creek Drive, Suite 220, Mokena, IL 60448, info@asse-plumbing.org.

4.5 All powered pot, pan and utensil washing sinks of the same classification, model, or material list designation furnished with similar options under a specific purchase order shall be identical to the extent necessary to ensure interchangeability of component parts, assemblies, accessories, and spare parts.

5. Ordering Information

5.1 Purchasers should select the preferred options permitted in this specification and include the following information in the procurement document:

- 5.1.1 Title, number, and date of this standard,
- 5.1.2 Type, and size machine required, including width of each sink section and drainboards (see 4.1),
- 5.1.3 Noise level requirements, if other than specified (see 11.2),
- 5.1.4 When a service-supply valve is required (see 7.4),
- 5.1.5 When overflows are required (see 7.7),
- 5.1.6 Electrical power supply characteristics (current, voltage, phase, frequency) (see Section 8),
- 5.1.7 Accessory equipment, spare and maintenance parts required, as suggested by manufacturer,
- 5.1.8 Treatment and painting if other than specified (see Section 10),
- 5.1.9 When energy consumption profiles, water consumption profiles, or productivity profiles are desired (see 12.3), and
- 5.1.10 Manufacturer's certification, when required (see Section 13).

6. Materials and Design

6.1 All materials shall be specified as follows:

6.1.1 Materials used shall be free from defects that would adversely affect the performance or maintainability of individual components of the overall assembly. The powered pot, pan and utensil washing sink shall meet the material, design, and construction requirements of NSF/ANSI 2.

6.1.2 *Corrosion-Resistant Steel*—Corrosion-resistant steel shall conform to the requirements of any 300 series stainless steel specified in 2.1.

6.1.3 *Corrosion-Resisting Material*—Corrosion-resisting material is other than corrosion resistant steel that is equivalent in the powered pot, pan and utensil washing sink application.

6.1.4 *Nickel-Copper Alloy*—Nickel-copper alloys shall conform to the requirements of Specification B127.

6.1.5 *Plastics*—All plastic materials and components used in the powered pot, pan and utensil washing sink in contact with water shall conform to NSF/ANSI 2 or NSF/ANSI 51.

7. Construction Requirements

7.1 The powered pot, pan and utensil washing sink shall be complete so that when connected to the electric power supply, water supply, drainage, the unit can be used for its intended function. Powered pot, pan and utensil washing sinks shall be rigid, quiet in operation as specified by user, free from objectionable vibration, and so constructed as to prevent objectionable splashing of water or overflow of water to the outside of the machine. Parts requiring adjustment shall be readily accessible. Parts requiring service shall be accessible. The machine shall aid in the process of manually washing dishes by pumping a water and detergent solution across dishes in the wash sink basin. Provisions shall be made to fill the wash sink basin either directly from the hot or cold faucet on the sink or automatically through a solenoid, or both. The pump “wash” cycle shall be automatically or manually controlled. A method shall be provided to indicate that the heating element may be energized.

7.2 *Piping, Tubing, Fittings, and Valves (Installation)*—Connections shall be readily accessible to facilitate installation and maintenance. Piping, tubing, and valves shall be located, whenever possible, on the exterior of the machine. See Specifications A29/A29M, A120, A240/A240M, A276, A554, B43, and B75.

7.3 *Piping and Fittings*—Water piping and fittings shall be of corrosion-resisting material. Fresh water supply to the sink shall be discharged not lower than 2 in. (50.8 mm) above the maximum flood level rim, or an effective air gap or vacuum breaker shall be installed to prevent backflow. Backflow protection shall be in accordance with ASSE 1001. The drain and other plumbing connections shall be standard pipe or tubing connections. Drainage piping shall be corrosion-resisting material, or suitable heat-resisting plastic material. Drains may be joined into a single trunk line requiring only one connection or arranged to permit individual connections to the waste line.

7.4 *Valves*—When specified, a separately packed service supply valve shall be provided for closing the supply of water to the powered pot, pan and utensil washing sink. The drain valve shall be permanently marked to show “open” and “closed” positions and shall be lever-operated or wheel-operated, ruggedly designed for foot or hand operation except when drain valve closure is automatic. Fresh water solenoid valves, when provided, shall be reliable and fully automatic and suitable for 140°F (60°C) water. The manually operated faucet valves, when used, shall be identified as “hot” and “cold.”

7.5 *Spray Assemblies*—All wash nozzles and manifolds shall be of corrosion-resisting materials (see Specification A582/A582M).

7.6 *Tank*—The tank shall be constructed of not less than 0.055 in. (1.39 mm), corrosion-resistant steel, or other corrosion-resisting material.

7.7 *Overflow*—When specified, the powered pot, pan and utensil washing sink shall have a readily accessible overflow drain in each basin of the sink. The overflow unit, or cover, when provided, shall be removable for cleaning.

7.8 *Frame*—Frame members shall be constructed of not less than 0.044 in. (1.11 mm) corrosion-resistant steel, or other corrosion resisting material, and shall be rigid and stiffened as necessary.

7.9 *Legs (Feet)*—The machine shall be rigidly constructed and have four or more legs (feet) made of corrosion-resistant steel, or other corrosion-resisting material. Legs shall be provided with adjustable feet, so that the height of the table may be varied from 33-½ to 34-¾ in. (851 to 882 mm) above the floor.

7.10 *Pump and Motor Assemblies:*

7.10.1 *Assemblies*—The pump motor shall be mounted on the tank or on a rigid steel base. Rotary seals shall be provided for pump shafts and shall be removable for servicing.

7.10.2 *Pump (see Specification A436)*—Pump casings shall be corrosion-resisting material and shall have a removable cover or inspection plate, or be of such a design as to permit ease of accessibility for inspection and removal of foreign items from the impeller and interior. The pump shall either be self-draining or equipped with means for draining. The shaft shall be of corrosion-resistant steel, properly aligned and supported. The impeller shall be corrosion-resisting material and shall be in dynamic balance. The pump shall have at least two ball or roller bearings, except that when the pump and motor are mounted on the same shaft, at least two ball or roller bearings shall be provided for the motor and pump. The pump suction intake shall be provided with a corrosion-resistant strainer or shroud.

7.11 *Heating:*

7.11.1 *Style 1*—Style 1 machines shall be equipped with electric heater elements and sheaths of 300 series corrosion-resistant steel or other corrosion resisting material. They shall be provided with temperature regulators for maintaining minimum 110°F (43.3°C) water temperature in the tank. Low water protection shall be provided.

7.11.2 *Style 2*—Style 2 machines are not provided with a source of heat.

8. Electrical Equipment Requirements

8.1 The electrical equipment shall meet the requirements of UL 921. The powered pot, pan and utensil washing sink shall operate on the power characteristics (current, voltage, phase, frequency) specified (see NFPA No. 70).

8.2 *Motors (see NEMA ICS)*—Motors shall comply with applicable requirements of UL 921.

8.3 *Controls (see NEMA MG-1)*—All control equipment shall conform to UL 921 and be capable of operation in an ambient room temperature of 115 ± 9°F (46 ± 5°C).

8.4 *Wiring and Circuit Safety Devices*—All wiring and circuit safety devices shall be in conformance with UL 921. All wiring between the powered pot, pan and utensil washing sink components shall have provisions for completion at a recognized junction on the machine, except disposers requiring connections to the main electrical power supply.

9. Lubrication Requirement

9.1 Means for effective and adequate lubrication shall be provided when required. Lubricating points shall be readily accessible, and applicable components of the powered pot, pan and utensil washing sink shall be lubricated with the proper amount of lubricant prior to delivery.

10. Treatment and Painting Requirements

10.1 Unless otherwise specified, the powered pot, pan and utensil washing sink shall be treated and painted in accordance with the manufacturer's standard practice. All surfaces of the machine, other than corrosion resisting materials, shall be protected against corrosion in the use environment and shall present a neat appearance.

11. Performance Requirements

11.1 *Performance Standards Compliance*—Powered pot, pan and utensil washing sink shall conform to the requirements of OSHA, UL 921, and NSF/ANSI 2.

11.2 *Noise Level*—Unless otherwise specified, the noise level of the powered pot, pan and utensil washing sink only, when operating, exclusive of loading, unloading, and servicing, shall not exceed 80 dB at loading and unloading drainboards, measured at 5 ft (1.52 m) above the floor and 2 ft (0.61 m) away from the machine (see ANSI S1.4 and ANSI S1.13).

12. Test Methods

12.1 *Operational*—Each machine shall comply with the requirements of NSF/ANSI 2 and UL 921.