



Designation: F 1202 – 97

## Standard Specification for Washing Machines, Heat Sanitizing, Commercial, Pot, Pan, and Utensil Vertically Oscillating Arm Type<sup>1</sup>

This standard is issued under the fixed designation F 1202; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers manually fed, motor-driven vertically oscillating arm type, automatically controlled, commercial pot, pan, and utensil washing machines, hereinafter referred to as “the washer.”

1.2 The following precautionary statement pertains only to the test methods portion, Section 9 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 and health practices and determine the applicability of regulatory limitations prior to use.*<sup>2</sup>

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- A 120 Specification for Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless for Ordinary Uses<sup>3</sup>
- A 167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip<sup>4</sup>
- A 276 Specification for Stainless Steel Bars and Shapes<sup>4</sup>
- A 436 Specification for Austenitic Gray Iron Castings<sup>5</sup>
- A 554 Specification for Welded Stainless Steel Mechanical Tubing<sup>3</sup>
- B 43 Specification for Seamless Red Brass Pipe, Standard Sizes<sup>6</sup>
- B 75 Specification for Seamless Copper Tube<sup>6</sup>
- B 127 Specification for Nickel-Copper Alloy (UNS NO4400) Plate, Sheet, and Strip<sup>7</sup>
- D 3951 Practice for Commercial Packaging<sup>8</sup>
- F 760 Specification for Food Service Equipment Manuals<sup>9</sup>

F 1021 Specification for Feeders, Detergent, Rinse Agent, and Sanitizing Agent for Commercial Dishwashing and Glasswashing Machines<sup>9</sup>

#### 2.2 Federal Regulation:<sup>10</sup>

OSHA Title 29

#### 2.3 American National Standards:<sup>11</sup>

ANSI SI.4 Specification for Sound Level Meters

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

#### 2.4 National Electrical Manufacturers Association Standards:<sup>12</sup>

NEMA ICS Industrial Controls and Systems

NEMA MG-I Motors and Generators

#### 2.5 National Fire Protection Association Standard:<sup>13</sup>

NFPA No. 70 National Electrical Code

#### 2.6 National Sanitation Foundation Standards:<sup>14</sup>

NSF No. 5 Commercial Hot Water Generating Equipment

NSF No. 14 Plastic Piping System Components and Related Materials

NSF No. 26 Spray Type Pot, Pan and Utensil Washing Machines

NSF No. 29 Detergent/Chemical Feeders for Commercial Spray-Type Dishwashing Machines

NSF No. 51 Plastic Materials and Components Used in Food Equipment

NSF Criteria C-2 Special Equipment and/or Devices

NSF Food Service Equipment Listing

#### 2.7 Underwriters Laboratories Standard:<sup>15</sup>

UL 921 Commercial Electric Dishwashers

#### 2.8 American Society of Sanitary Engineering Standard:<sup>16</sup>

<sup>1</sup> This specification is under the jurisdiction of Committee F-26 on Food Service Equipment and is the direct responsibility of Subcommittee F26.01 on Cleaning and Sanitation Equipment.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 01.05.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 01.01.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 01.03.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 01.02.

<sup>6</sup> *Annual Book of ASTM Standards*, Vol 02.01.

<sup>7</sup> *Annual Book of ASTM Standards*, Vol 02.04.

<sup>8</sup> *Annual Book of ASTM Standards*, Vol 15.09.

<sup>9</sup> *Annual Book of ASTM Standards*, Vol 15.07.

<sup>10</sup> Available from the Superintendent of Documents, Government Printing Office, Washington, DC 20401.

<sup>11</sup> Available from American National Standards Institute, 11. W. 42nd St., 13th Floor, New York, NY 10036.

<sup>12</sup> Available from National Electrical Manufacturers Association, 2101 L St. N.W., Washington, DC 20037.

<sup>13</sup> Available from National Fire Protection Assoc., Batterymarch Park, Quincy, MA 02269.

<sup>14</sup> Available from NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0410.

<sup>15</sup> Available from Underwriters Laboratories, Inc., 333 Pfingsten Rd., Northbrook, IL 60062.

<sup>16</sup> Available from American Society of Sanitary Engineering, P.O. Box 9712, Bay Village, OH 44140.

## ASSE 1001 Pipe Applied Atmospheric Vacuum Breakers

### 3. Terminology

#### 3.1 Definition:

3.1.1 *commercial pot, pan and utensil washing machines*—machines that uniformly wash, rinse, and heat sanitize food preparation utensils. The machines shall be capable of removing physical soil and sanitizing multiple pots, pans, and utensils from properly racked and pre-scraped items. The machines may consist of the following principal parts: legs, wash chamber, hood tank, doors, spray assemblies, pumps, motors, controls, piping, valves, heating equipment, and accessories.

### 4. Classification

4.1 *General*—The washer shall be of the following types, styles, sizes, and classes as specified.

#### 4.2 Types:

4.2.1 Type I—One rack capacity.

4.2.1.1 *Style A*—One door (front-loading).

4.2.1.2 *Style B*—Three doors (pass-through with front load door).

#### 4.3 Tank Heat:

4.3.1 *Class A*—Injection.

4.3.2 *Class B*—Heat Exchange Coil.

4.3.3 *Style 2*—Electric Heat.

### 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 type, style, and class of machine required.

5.1.2 A standard 40°F (22°C) temperature rise steam or electric booster is required. If the required temperature rise is more than 40°F (22°C) (see 7.13), it should be specified.

5.1.3 Electrical power supply characteristics (voltage, phase, frequency) (see Section 7.11.3).

5.1.4 A detergent feeder, if required (see 7.14).

5.1.5 Accessory equipment, spare and maintenance parts required, as specified in order.

5.1.6 Treatment and painting, if other than specified (see 7.17).

5.1.7 When energy consumption profiles, water consumption profiles, or productivity profiles are desired.

5.1.8 Manufacturer's certification, when required (see Section 10).

### 6. Materials

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 pot, pan, and utensil washing machines shall meet the material, design, and construction requirements of NSF No. 26 or Criteria C-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 (see Specification A 167).

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

6.1.4 *Nickel-Copper Alloy*—Nickel-copper alloys shall conform to the requirements of Specification B 127.

6.1.5 *Plastics*—All plastic materials and components used in the pot, pan, and utensil machine rinse system shall conform to NSF No. 14 and NSF No. 51.

### 7. Design and Construction

7.1 The washer shall be complete so that when connected to the specified source of power, water supply, heating means (steam or electric), drainage, detergent and rinse agent feeder as applicable, the unit can be used for its intended function. Machines shall be rigid and quiet in operation. Parts requiring adjustment or service, or both, shall be readily accessible. The machine shall wash pots, pans, and utensils by means of a water and detergent solution pumped from a tank, and shall final rinse the pots, pans, and utensils with fresh water from an outside source at 15 to 25-psi incoming pressure. Provisions shall be made to fill the wash tank either directly from the regular hot water supply with a hand valve or through the booster or solenoids, or both. The wash, dwell, and rinse cycles shall be automatically controlled. A light shall be provided to indicate when the machine is in operation. Machines shall be provided with tracks of corrosion-resistant steel or other corrosion-resisting material not less than 0.109. They shall have an inside working height including the door height of not less than 30 in. (76.2 cm).

7.2 *Piping, Tubing, Fittings, and Valves (Installation)*—Connections shall be readily accessible to facilitate installation and maintenance (see Specifications B 43, B 75, A 554, and A 120).

7.3 *Piping and Fittings*—Water, steam piping, and fittings shall be of corrosion-resisting material, or suitable heat-resisting plastic material.

7.3.1 Fresh water supply to the tank 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. 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*—Steam valves shall be corrosion-resisting material designed for steam applications and for a saturated steam working pressure of 50 psi (344.6 kPa). 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 rinse valves shall be reliable and fully automatic and suitable for 210°F (98.9°C) water. The manually operated valves, when used, shall be identified. When specified, a water pressure reducing valve shall be provided for reducing water pressure to 15 to 25 psi (see ANSI SI.4 and SI.13).

7.5 *Spray Assemblies*—All spray nozzles and spray arm manifolds shall be of corrosion-resisting materials. The main spray arm assembly shall include separate wash and rinse