

Internal Use Only

INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

MATERIAL AND PROPERTY STANDARD FOR

WATER CLOSETS WITH SPRAY, WATER CLOSET SEATS WITH SPRAY AND OTHER DEVICES WITH SPRAY FOR WATER CLOSET SUPPLIED WITH HOT AND COLD WATER

IAPMO PS 93-2004a

1. PURPOSE

- 1.1** The purpose of this standard is to establish a generally acceptable standard for water closets with spray, water closet seats with spray and other devices with spray for water closet supplied with hot and cold water. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, installers, inspectors and users; to promote understanding regarding materials, manufacture, installation and performance; and to provide for identifying units complying with this standard.
- 1.2** The provisions of this standard are not intended to prevent the use of any alternate material or method of construction, provided any such alternate meets the intent of this standard.

2. SCOPE

- 2.1** This standard applies to water closets with spray, water closet seats with spray and other devices with spray for water closet supplied with hot and cold water. It specifies manufacturing, performance, and safety requirements, test methods and details of marking. These systems shall be installed in accordance with all applicable code requirements.

3. REFERENCED STANDARDS

- 3.1** All standards referenced herein shall be the current edition of that standards.

ASME A112.4.2	Water Closet Personal Hygiene Devices
ASME A112.18.1	Plumbing Fixture Fittings
ASSE 1012	Backflow Preventer With Intermediate Atmospheric Vent
CSA C22.2 no.223	Power Supplies with Extra-Low Voltage Class 2 Outputs – Industrial Products
UL 1310	Class 2 Power Units
UL 1585	Class 2 and Class 3 Transformers

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4. GENERAL REQUIREMENTS

4.1 Components

- (a) If the fully extended water outlet is less than 25.4 mm (1 in.) above the fixture's flood level, the unit shall be equipped with a backflow prevention device:
 - (i) Vacuum breaker shall be in accordance with section 2.1 of ASME A112.4.2, or
 - (ii) Backflow preventer with intermediate atmospheric vent complying with appropriate sections of ASSE 1012 as outlined in Section 5 of this standard, do not have mounting elevation requirements;
- (b) Units incorporating electrical features shall be supplied by:
 - (i) A low voltage battery having a peak open circuit potential of not more than 42.2V;
 - (ii) A suitable class 2 low voltage transformer complying with the requirements of UL 1310, UL 1585, or CSA C22.2 no. 223; or
 - (iii) Shall comply with the requirements in section 2.2 of ASME A112.4.2.
- (c) Plastic toilet seats shall comply with section 2.5 of ASME A112.4.2.
- (d) Metal alloys in contact with potable water shall contain less than 8% lead. Solder and flux shall contain no more than 0.2% lead.
- (e) Sprayer shall be fully retractable and concealed when not in use.
- (f) Vitreous china water closets shall comply with section 2.3 of ASME A112.4.2.
- (g) Plastic bowls and tanks shall comply with section 2.4 of ASME A112.4.2.
- (h) Coated exposed components shall comply with section 4.2 of ASME A112.18.1
- (i) Units shall be equipped with a safety device to shut off the unit when the water discharge temperature reaches 118°F (48°C).

- 4.2 Instructions.** Installation instructions and care/maintenance instructions for proper assembly, installation and operation shall be provided with each unit.

5. TEST METHODS

- 5.1 Pressure Test.** The valve shall be tested per section 3.2 of ASME A112.4.2. The unit shall show no signs of leakage or structural damage.

- 5.2 Cycle Test.** The unit shall be tested per section 3.4 of ASME A112.4.2.

At the end of the cycle testing, the valve shall be able to control the water flow and the telescoping sprayer shall still be functioning. In addition, there shall be no signs of leakage from the unit.

5.3 Back Siphonage Test

- 5.3.1** Vacuum breaker shall be tested per section 3.5.1 of ASME A112.4.2. Any water rise in the sight tube in excess of 12.7 mm (1/2 in.) shall constitute failure.