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Performance Requirements for Trap Seal Primer Devices - Drainage Types and Electronic Design Types

Section I

1.0 General

1.1 Application

Devices covered by this performance standard are designed primarily to supply water to floor drain traps which have infrequent use and in which water evaporation would allow sewer gas to enter the premises.

The type of device covered by this standard is designed to supply water to a drain trap to provide and maintain its water seal using a supply from a fixture drainline, ballcock, or flushometer valve tailpiece or an electronic primer device. The rate of water flow to the trap shall be permitted to be fixed or adjustable.

1.2 Scope

1.2.1 Description

The devices are of four (4) types:

a) Those which are installed on waste line tail pieces from fixtures, such as lavatories, sinks and similar fixtures where grease is not normally generated;
b) Those which are used in conjunction with ballcock assemblies;
c) Those which receive flow from flushometer valves; and
d) Those electronics devices which discharge water automatically and which are upstream of the air gap or vacuum breaker.

1.2.2 Fixture Connected Devices

Tubing size shall be not less than 32 DN (1-1/4 NPT) nominal size. Makeup water supply connection shall be minimum of 10 DN (3/8 NPT) nominal size.

1.2.3 Ballcock Connected Devices

Makeup water supply connections to the refill tube shall not be less than 6 DN (1/4 NPT) nominal size.

1.2.4 Flushometer Connected Devices

Makeup type water supply connections shall be a minimum of 10 DN (3/8 NPT) nominal size.

1.2.5 Electronic Devices

The minimum inlet size shall be 15 DN (1/2 NPT). The minimum outlet size shall be 10 DN (3/8 NPT).

1.2.6 Working Pressure

Devices shall be designed for water working pressure of 172 kPa (25 psi) for ballcock, flushometer valve or fixture tailpiece devices and 862 kPa (125 psi) for electronic units

1.2.7 Connections

Pipe threads and other connections shall conform to applicable standards.

1.2.7.1 Tapered pipe threads shall comply with ANSI/ASME B1.20.1.

1.2.7.2 Dry seal pipe threads shall comply with ANSI/ASME B1.20.3.

1.2.7.3 Compression assemblies shall comply with ANSI/SAE J 512.

1.2.7.4 Soldered Joints

Soldered joints on assemblies which connect to potable water piping shall be made with solder and fluxes not to exceed 0.2% lead.

1.2.7.5 Other type connections shall conform to appropriate standards.

1.2.8 Fixture Tailpiece Trap Primer Devices

Fixture trap or tailpiece trap primer devices shall consist of a 30 mm (1-1/4 inch) or larger tailpiece or trap assembly which is designed with a connection to connect to a small diameter supply tube which drains to the floor drain trap inlet.

1.2.9 Ballcock Trap Primer Devices

Ballcock trap primer devices shall consist of a refill tube diversion mechanism, a close coupled tank bolt/drain assembly, and related fittings for connection to the closet tank and ballcock. The device shall be constructed of materials which are corrosion resistant equal to yellow brass (60% copper). The diversion refill tube assembly shall be fitted with clear vinyl tubing not less than 8 mm (1/4") ID from the point of connection to the check member, a 8 mm (1/4") tee fitting, a check valve and a flow restrictor. Connections from the outlet of the close coupled tank connector tube shall not be less than 10 mm (3/8") OD in diameter.

1.2.10 Flushometer Tailpiece/Trap Primer Devices

Flushometer tailpiece/trap primer devices shall consist of chrome-plated supply tube of not less than 17 gauge complying with ANSI/ASME A112.18.1M, and fitted with minimum 3/8" OD compression-type chrome plated brass fitting brazed to the tailpiece. Compression fittings shall comply with ANSI/SAE J512.

1.2.11 Electronic Devices

1.2.11.1 Tubing

Tubing shall comply with ASTM B88 and shall be minimum of Type "L".

1.2.11.2 Electric Trap Priming Assembly

Electric trap priming assemblies shall comply with one or more of the following standards:

a) Standard for Motor Operated Appliances, UL 73,
b) Standard for Motor Operated Appliances, CAN/CSA-C22.2 No. 68.

1.2.11.3 Backflow Protection

Backflow devices shall comply with ASSE/ANSI 1001 and/or ASME/ANSI A112.1.2.

1.3 Reference Standards

The following standards are referenced in this standard and shall be used to evaluate such assemblies. The latest editions shall apply.

(a)	ASME/ANSI B1.20.1	Pipe Threads
(b)	ASME/ANSI A112.1.2	Air Gaps for Plumbing Systems
(c)	ASME/ANSI A112.18.1	Plumbing Fixture Fittings
(d)	ANSI/SAE J512-	Automotive Tube Fittings
(e)	ANSI/ASSE 1001-	Pipe Applied Vacuum Breakers
(f)	ASTM B88-	Seamless Copper Tube
(g)	UL 73	Standard for Motor Operated Appliances
(h)	CAN/CSA-C22.2 #68	Standard for Motor Operated Appliances