FIRE PROTECTION WELL SERVICE AIR VALVE
Val-Matic Specification

1 Scope

1.1 This specification is intended to cover the design, manufacture, and testing of 2 in. through 3 in. Well Service Air Valves suitable for clean or raw water service in fire protection applications with pressures up to 300 psig.

1.2 Well Service Air Valves shall be fully automatic float operated valves designed to exhaust air which is present in the vertical pump column on pump startup and allow air to re-enter the column on pump shutdown or should a negative pressure occur. A top mounted Throttling Device shall provide adjustable control of the exhaust rate.

2 Standards, Approvals and Verification

2.1 The valves shall be listed by Underwriters Laboratories.

2.2 The valves shall be manufactured and tested in accordance with American Water Works Association Standard (AWWA) C512.

2.3 Valves used in potable water service shall be certified to NSF/ANSI 61 Drinking Water System Components - Health Effects.

2.4 Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.

3 Connections

3.1 Valve bodies shall have full size NPT inlets and outlets equal to the nominal valve size.

3.2 The body inlet connection shall be hexagonal for a wrench connection.

4 Design

4.1 The valve body shall provide a through flow area equal to the nominal valve size. A bolted cover with alloy screws and flat gasket shall be provided to allow for maintenance and repair.

4.2 Floats shall be unconditionally guaranteed against failure including pressure surges. The float shall have a hexagonal guide shaft supported in the body by circular bushings to prevent binding from debris. The float shall be protected against direct water impact by an internal baffle and stainless steel diffuser screen to break up the solid water column before coming in contact with the float.

4.3 The resilient seat shall provide drop tight shut off to the full valve pressure rating. The seat shall be a minimum of 1/2 in. (12 mm) thick and secured in such a manner as to prevent distortion. The seat shall be precision molded with an o-ring type sealing surface and a slot in the seat opening to provide a positive seal at low pressures.

4.4 Valves shall be equipped with a dual port throttling device to control the discharge of air from the valve. The device shall have an externally adjustable screw and locknut for adjusting the discharge control disc.

5 Materials

5.1 The Well Service Air Valve body, cover, and baffle shall be constructed of ASTM A126 Class B cast iron.

5.2 The float, guide shafts, and bushings shall be constructed of Type 316 stainless steel. Non-metallic guides and bushings are not acceptable.

5.3 The seat shall be Buna-N capable of providing drop tight shut off at the valve full pressure rating.

6 Options

6.1 Valve interiors and exteriors shall be coated with an NSF/ANSI 61 certified fusion bonded epoxy in accordance with AWWA C550 when specified.

6.2 Low Pressure seat shall be furnished for low pressure applications.

7 Manufacture

7.1 The manufacturer shall demonstrate a minimum of five (5) years experience in the manufacture of air valves.

7.2 The exterior of the valve shall be coated with a universal alkyd primer.

7.3 Well Service Air Valves shall be Series #102ST as manufactured by Val-Matic Valve & Manufacturing Corporation, Elmhurst, IL. USA. or approved equal.