

## AIR RELEASE VALVE SPECIFICATION

### Scope

1.1 This specification is intended to cover the design, manufacture, and testing of 1/2 in. (13 mm) through 3 in. (76 mm) Air Release Valves suitable for clean or raw water service with pressures up to 740 psig (5100 kPa).

1.2 Air Release Valves shall be automatic float operated valves designed to release accumulated air from a piping system while the system is in operation and under pressure. The capacity and pressure rating of the valve is dependent on the diameter of the precision orifice in the cover. A large inlet connection is required for proper air and water exchange. [NOTE: See Air/Vacuum Valves for exhausting and admitting large volumes of air and Combination Air Valves for both air release and air/vacuum functions.]

### Connections

2.1 The valve body shall be threaded with NPT inlets and outlets. The body inlet connection shall be hexagonal for a wrench connection.

2.2 The valve shall have two additional NPT connections for the addition of gauges, testing, and draining.

### Design

3.1 The cover shall be bolted to the valve body and sealed with a flat gasket. Resilient seats shall be replaceable and provide drop tight shut off to the full valve pressure rating.

3.2 Floats shall be unconditionally guaranteed against failure including pressure surges. Mechanical linkage shall provide sufficient mechanical advantage so that the valve will open under full operating pressure. Simple Lever Designs shall consist of a single pivot arm and a resilient orifice button. Compound Lever Designs shall consist of two levers and an adjustable threaded resilient orifice button.

### Materials

4.1 The valve body and cover shall be constructed of ASTM A126 Class B cast iron for working pressures up to 300 psig. Higher pressure rated valves shall be constructed of ASTM A536 Grade 65-45-12 ductile iron.

4.2 The orifice, float and linkage mechanism shall be constructed of Type 304 stainless steel. Non-metallic floats or linkage mechanisms are not acceptable. The orifice button shall be Viton for simple lever valves and Buna-N for compound lever designs.

### Options

5.1 An optional vacuum check on the outlet shall be provided when specified to prevent air from re-entering the system during negative pressure conditions.

5.2 Optional body materials include ASTM A216 Grade WCB cast steel, ASTM A351 Grade CF8M stainless steel, and ASTM B584 Alloy C83600 cast bronze.

5.3 Optional float and trim material include 316 stainless steel.

### Manufacture

6.1 The manufacturer shall demonstrate a minimum of five (5) years experience in the manufacture of air valves. The valves shall be manufactured and tested in accordance with American Water Works Association Standard (AWWA) C512. When requested, the manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.

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

6.3 Air Release Valves shall be Series 15A to 50 as listed in the Valve Schedule and as manufactured by Val-Matic® Valve & Mfg. Corporation, Elmhurst, IL, USA. or approved equal.

Revised 4-9-98

AIR RELEASE VALVE SPECIFICATION

DATE 1-17-80

**VAL-MATIC®** VALVE AND MANUFACTURING CORP.

DRWG. NO.

SS-171

**FIRE PROTECTION AIR RELEASE AIR VALVE  
Val-Matic® Valve Specification**

**1 Scope**

**1.1** This specification is intended to cover the design, manufacture, and testing of 1/2 in. (13 mm) through 1 in. Air Release Air Valves suitable for clean or raw water service in fire protection applications with pressures up to 300 psig.

**1.2** Air Release Valves shall be automatic float operated valves designed to release accumulated air from a split case centrifugal fire pump or piping system while the system is in operation and under pressure. The capacity and pressure rating of the valve is dependent on the diameter of the precision orifice in the cover. A large inlet connection is required for proper air and water exchange. [NOTE: See Well Service Air Valves for exhausting and admitting large volumes of air.]

**2 Connections**

**2.1** The valve body shall be threaded with NPT inlets and outlets. The body inlet connection shall be hexagonal for a wrench connection.

**2.2** The valve shall have two additional NPT connections for the addition of gauges, testing, and draining.

**3 Design**

**3.1** The cover shall be bolted to the valve body and sealed with a flat gasket. Resilient seats shall be replaceable and provide drop tight shut off to the full valve pressure rating.

**3.2** Floats shall be unconditionally guaranteed against failure including pressure surges. Mechanical linkage shall provide sufficient mechanical advantage so that the valve will open under full operating pressure. Simple Lever Designs shall consist of a single pivot arm and a resilient orifice button.

**4 Materials**

**4.1** The valve body and cover shall be constructed of ASTM A126 Class B cast iron for working pressures up to 300 psig.

**4.2** The orifice, float and linkage mechanism shall be constructed of Type 304 stainless steel. Non-metallic floats or linkage mechanisms are not acceptable.

**4.3** The orifice button shall be Viton capable of providing drop tight shutoff at the full pressure rating of the valve.

**5 Manufacture**

**5.1** The manufacturer shall demonstrate a minimum of five (5) years experience in the manufacture of air valves. The valves shall be Factory Mutual Approved and Underwriters Laboratories Listed. The valves shall be manufactured and tested in accordance with American Water Works Association Standard (AWWA) C512.

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

**5.3** Air Release Valves shall be Series 15A and 22 as manufactured by Val-Matic® Valve & Mfg. Corporation, Elmhurst, IL. USA. or approved equal.

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FIRE PROTECTION AIR RELEASE AIR VALVE SPECIFICATION

DATE 12-19-97

**VAL-MATIC®** VALVE AND MANUFACTURING CORP.

DRWG. NO.

**SS-1440**