For use in the Denver Water Service Area

Material Specification – 11

COMBINATION AIR-RELEASE AND VACUUM VALVES

1. GENERAL

Combination air-release and vacuum valves shall be designed and manufactured in accordance with AWWA C512 with the following additional requirements or exceptions.

2. SERVICE

Valves shall be suitable for frequent operation and for long periods of inactivity. Valves shall be capable of venting large quantities of air during liquid piping system filling, automatically releasing small pockets of accumulated air during pressurized operation, and admitting large quantities of air into liquid piping system when internal pressure drops below atmospheric pressure. Components shall be constructed of materials suitable for exposure to chloraminated water.

3. SIZES

This Specification covers combination air-release and vacuum valves, one-inch through 6-inch.

4. VALVE DESCRIPTION

Combination air-release and vacuum valves shall be a single body design incorporating both functions of allowing air into and out of the piping system.

5. INSTALLATION

Combination air-release and vacuum valves shall be installed in a vertical position in an underground concrete manhole or concrete vault as applicable.

6. VALVE CONSTRUCTION

A. CI valve body and cover shall be in accordance with ASTM A 48, Class 35B, or ASTM A 126, Grade B. DI valve body and cover shall be in accordance with ASTM A 536, Grade 65-45-12. Each valve shall be supplied with stainless steel trim; this includes the float, float arm, guide bushings, plug, and connecting hardware.

B. Stainless steel valve body shall be AISI Type 304. The ends shall be epoxy coated steel or Type 304 stainless steel secured with Type 304 stainless steel rods. The floats shall be solid cylindrical high density polyethylene. The baffle plate, nozzle seat retaining plate, small orifice nozzle, and connecting hardware shall be stainless steel.

C. Valve seats shall be synthetic rubber, Buna-N or EPDM. Valves installed in the recycled water system shall have EPDM seats.

D. Valves, one-inch and 2-inch, shall be furnished with NPT inlets; valves, 3-inch through 6-inch, shall be furnished with flanged inlets that conform in dimension and drilling to ANSI B16.1, Class 125. Each flange face shall be machined to a flat surface with a serrated finish in accordance with AWWA C207.

Valves shall be provided with 1/4-inch minimum NPT pipe plugs in the bottom of the body.

E. Valves, one-inch through 6-inch, shall include standard NPT screwed discharge connection.

7. WORKING PRESSURE

The working pressure shall be 150 psi.

8. TESTING

Each assembled valve shall be tested in accordance with AWWA C512.

9. COATINGS

Ferrous surfaces, except machined or bearing surfaces, shall be prepared in accordance with SSPC SP10. These surfaces shall then be coated with liquid epoxy in two or more uniform coats or with fusion-bonded epoxy to a minimum DFT of 10-mils in accordance with AWWA C550. Machined flange faces shall be shop-coated with a rust-preventive compound; they shall not be painted or coated with the same coating as the body.

10. QUALITY CONTROL

The Manufacturer shall submit a written statement that the inspection and all specified tests have been completed and that results comply with the requirements of these Standards. Components in contact with potable water shall be certified to comply with NSF/ANSI 61, and a copy of the NSF/ANSI 61 certification shall be provided to Denver Water, if requested.

11. APPROVED MANUFACTURERS AND MODELS

CITY AND COUNTY OF DENVER AND TOTAL SERVICE CONTRACT AREAS		
Stainless Steel Body		
Manufacturers	**Models**	**Size (Inch)**
International Valve	Vent-Tech WTR-C Series	1 to 6
Vent-O-Mat	Series RBX	1 to 6
DISTRIBUTOR CONTRACT AREAS		
Iron Body		
Manufacturers	**Models**	**Size (Inch)**
GA Industries	Figure 945	1 to 4
Val-Matic	Series 200	1 to 6
Stainless Steel Body		
Manufacturers	**Models**	**Size (Inch)**
International Valve	Vent-Tech WTR-C Series	1 to 6
Vent-O-Mat	Series RBX	1 to 6

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