

Materials Specification – 11 for ONE INCH THROUGH FOUR INCH COMBINATION AIR- RELEASE AND -VACUUM VALVES

1. VALVE DESCRIPTION:

Combination Air Release and Vacuum Valves shall be of the single body, double orifice type. The large orifice shall allow air to escape during pipeline filling and to enter during drainage of the pipeline. The small orifice shall release small pockets of air after the pipeline is filled and under pressure. Except as modified or supplemented herein, all air valves supplied under this Specification shall be designed and manufactured in strict compliance with AWWA C512. The valves shall be installed in a vertical position in an underground vault.

2. VALVE CONSTRUCTION:

A. Standard Iron Body:

The valve body and cover shall be cast iron per ASTM A 48, Class 35 or ASTM A 126, Grade B; or ductile iron per ASTM A 536, Grade 65-45-12. Each valve shall be supplied with stainless steel trim, which includes the float, float arm, guide bushings, plug, and all connecting hardware.

B. Cylindrical Body:

The valve body shall be Type 304 stainless steel, and 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 all connecting hardware shall be stainless steel.

Valve seats shall be natural or synthetic rubber equal to Buna-N or EPDM.

All 3 inch and 4 inch valves shall be furnished with flanged inlets conforming 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. All one inch and 2 inch valves shall be furnished with NPT inlets. All valves shall be provided with 1/2 inch NPT pipe plugs in the top cover and in the bottom of the body.

The operating pressure shall be 150 psi.

3. SIZE OF ORIFICES:

All valves shall be furnished with orifice sizes as tabulated:

Valve Size	Inlet	Outlet	Small Orifice	
			Standard Body	Cylindrical Body
1"	1"	1"	5/64"	.047"
2"	2"	2"	3/32"	.047"
3"	3"	3"	3/32"	.059"
4"	4"	4"	3/32"	.059"

4. TESTING:

Each assembled valve shall be tested in accordance with AWWA C512. The manufacturer shall furnish one certified copy of the test reports to the Board.

5. COATINGS:

All interior and exterior ferrous surfaces of the valve except machined or bearings surfaces, and corrosion resistant components shall be prepared for coating per SSPC-SP-10. These surfaces shall then be coated with a two-part thermosetting polyamide epoxy in two or more uniform coats, or with fusion bonded epoxy, to a minimum dry film thickness of 10 mils. Epoxy coating shall conform to AWWA C550 and shall be Ameron 400, Tnemec Series 140F Pota-Pox Plus, Corvel ECA-1626, or approved equal. Flange faces shall be shop coated with a rust preventative compound.

6. CERTIFICATION:

The manufacturer shall furnish a sworn statement that the inspection and all of the specified tests have been results thereof comply with the requirements of the applicable Standard(s) herein specified. A copy of the Certification including compliance with NSF/ANSI 61 shall be sent to Denver Water.

7. ACCEPTABLE MANUFACTURERS:

Standard Body
APCO, Models 143C, 145C, 147C and 149C
Val-Matic, Series #200
GA Industries, Figure 945

Cylindrical Body
Vent-O-Mat, Series RBX

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