

NORTH MARIN WATER DISTRICT

STANDARD SPECIFICATIONS

SECTION 15108 AIR RELEASE VALVE, AIR AND VACUUM VALVE, AND COMBINATION AIR VALVE ASSEMBLIES

PART 1 GENERAL

1.01 DESCRIPTION

This section includes the materials and installation instructions for air release valve, air and vacuum valve, and combination air valve assemblies.

The term "air valve" is used generically in this specification to refer to requirements common to all of the specified air release valves, air and vacuum valves, and combination air valves. Otherwise, the various types of air valves are addressed by the individual designations commonly used in AWWA and industry standards.

1.02 REFERENCE STANDARDS

The publications listed below form part of this specification to the extent referenced and are referred to in the text by the basic designation only. Reference shall be made to the latest edition of said standards unless otherwise called for.

- AWWA C512 - Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service
- AWWA C550 - Protective Interior Coatings for Valves and Hydrants

1.03 RELATED WORK SPECIFIED ELSEWHERE

NMWD Standard Drawings
NMWD Standard Specifications 02223, 03000, 09910, 15000, 15041, 15044, 15056, 15057, 15061, 15064, 15100, 16640

1.04 SERVICE APPLICATION

- A. Combination air valves are generally installed on all potable and recycled water mains where shown on the Approved Plans and in accordance with the Standard Drawings.
- B. Unless otherwise shown on approved plans, combination air valves will be required as indicated below. Sizing and type of air valve(s) shall be determined by the District Engineer. Generally, air valves sizing guidelines are as follows:
 - 1. Two (2) inch combination air valve assemblies shall be installed on pipeline sizes six (6) inch through twelve (12) inch.

2. Four (4) inch combination air valve assemblies shall be installed on pipeline sizes sixteen (16) inch and twenty (20) inch.
 3. Six (6) inch combination air valve assemblies shall be installed on pipeline sizes twenty four (24) inch through thirty six (36) inch.
- C. Air release valves and air and vacuum valves shall be installed in accordance with the Approved Plans or as directed by the District Engineer.

1.05 DELIVERY, STORAGE, AND HANDLING

Valves shall be delivered and stored in accordance with AWWA C550. The port openings shall be covered with plastic, cardboard, or wood while in transit and during storage in the field. These covers shall remain in place until the valve is ready to be installed. Valves shall not be stored in contact with bare ground. Valves shall not be stacked.

1.06 RECYCLED WATER IDENTIFICATION

Air valve assemblies and enclosures used for recycled water shall be identified with purple-colored coating, identification labels or signs in accordance with Section 15151.

1.07 WARNING/IDENTIFICATION TAPE

Warning/Identification tape shall be installed for air valve assemblies in accordance with Section 15000.

PART 2 MATERIALS

2.01 COMBINATION AIR VALVES

- A. Combination air valves and appurtenant components and materials suitable for the system pressure shall be selected from the Approved Materials List.
- B. Combination air valves shall comply with AWWA C512 except as modified herein.
- C. Two (2) inch combination air valves shall be the single-body type incorporating stainless steel internal components and suction screen. National Pipe Threaded (NPT) inlet and outlet configurations.
- D. Four (4) inch and six (6) inch Combination Air Valves shall be the single-body type incorporating stainless steel internal components, protective hood, suction screen and flanged inlet.
- E. Internal protective epoxy coatings shall be provided in accordance with AWWA C550.

2.02 AIR RELEASE VALVES AND AIR AND VACUUM VALVES

- A. Air release valves and air and vacuum valves shall be provided only as specifically shown on the approved drawings. Air release valves, air and vacuum valves and appurtenant components and materials suitable for the system pressure, shall be selected from the Approved Materials List.
- B. Air release valves and air and vacuum valves shall comply with AWWA C512 except as modified herein.
- C. Two (2) inch air release valves and air and vacuum valves shall be the single-body type incorporating stainless steel internal components and suction screen. National Pipe Threaded (NPT) inlet and outlet configurations.
- D. Four (4) inch and six (6) inch air release valves and air and vacuum valves shall be the single-body style. Valves shall incorporate stainless steel internal components, suction screen, protective hood and flanged inlet.
- E. Epoxy linings and coatings for valves shall be provided in accordance with AWWA C550.
 - 1. Liquid epoxy lining and coating materials shall be listed in the NSF Listing for Drinking Water Additives, Standard 61, certified for use in contact with potable water.
 - 2. The minimum dry film thickness for epoxy linings shall be 0.008 inch or 8 mils. Liquid epoxy lining shall be applied in two (2) coats in accordance with AWWA C210.

2.03 ENCLOSURES

Air Valve Enclosures shall be selected from the Approved Materials List and per District Standard Drawings.

2.04 CONCRETE

Concrete used for anchor or thrust blocks and equipment pads shall be in accordance with Section 03000.

2.05 WARNING/IDENTIFICATION TAPE

Warning/Identification Tape shall be in accordance with Section 15000 and selected from the Approved Materials List.

2.06 FIELD PAINTING AND COATING

If required, field painting and coating materials shall be in accordance with Section 09910 and 09915 and selected from the Approved Materials List.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Air valve assemblies shall be provided as shown on the Approved Plans. Additional air valve assemblies may be required in areas of potential air entrapment, at the discretion of the District Engineer.
- B. Air valve assemblies shall be installed relative to street improvements in accordance with the Standard Drawings.
- C. Connections for the air valve assemblies shall be made within a section of the main line no closer than twenty four (24) inch to a bell, coupling, joint or fitting.

3.02 CONCRETE

Concrete thrust or anchor blocks and equipment pads shall be installed in accordance with Section 03000 and the Standard Drawings. Refer to Section 03000 for the minimum concrete curing time required.

3.03 WARNING/IDENTIFICATION TAPE

Warning/Identification tape shall be installed in accordance with Section 15000 and the Standard Drawings.

3.04 DISINFECTION

Air valve assemblies shall be disinfected in accordance with Section 15041 in conjunction with disinfecting the main to which it is connected. The assembly valves shall be operated and the assembly flushed to completely disinfect all internal parts.

3.05 HYDROSTATIC TESTING

Air valve assemblies shall be hydrostatically tested in accordance with Section 15044 in conjunction with the pipeline to which they are connected.

3.06 FIELD PAINTING AND COATINGS

- A. Air valve assemblies shall be color coded, if required, in accordance with Section 09910.
- B. Field repairs to the enclosure shall not be permitted. Enclosures requiring repairs to the coating shall be returned to the supplier or coating vendor for repairs or recoating in accordance with Section 09915.

END OF SECTION

Air Release Valve, Air and Vacuum Valve, and Combination Air Valve Assemblies