

STANDARD SPECIFICATIONS

SECTION 15089

COMBINATION AIR VACUUM / AIR-RELEASE VALVE ASSEMBLY

**PART 1 - GENERAL**

A. Description

This section includes materials and installation of combination air vacuum/air-release valves.

Valves are to be provided and installed per AWWA C 512, unless noted otherwise in this section.

B. Application

1. Combination valves shall be installed at high points on the line or as shown on the plans.
2. If the profile changes during construction from that shown on the drawings, valve assemblies shall be installed at the high points in lines as constructed.
3. The installation shall be complete as shown on VWD standard drawings W-2, or W-3, or W-24 and W-25.
4. Combination valve assemblies shall function to slowly release pockets of air which accumulate at high points, or changes in line gradient, exhaust large quantities of air from pipeline while being filled and admit large quantities of air into pipeline when being drained to prevent air lock or vacuum collapse of the pipe.

C. Related Work Specified Elsewhere

All related work specified elsewhere, or in other codes or standards, will be as last revised, unless a specific date of issuance is called out in opposition to later revision date(s).

Other sections of the technical specifications, not referenced below, shall also apply to the extent required for proper performance of this work.

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| 1. Concrete:  | 03300 |
| 2. Painting and Coating: (item C-3.C.)                        | 09900 |
| 3. Hydrostatic Testing of Pressure Pipelines:                 | 15042 |
| 4. Copper, Brass and Bronze Pipe, Fittings and Appurtenances: | 15057 |
| 5. Manual Valves:   | 15100 |

D. Approved Manufacturers

Per VWD Approved Material List, latest edition.

E. Air-Release Valve Criteria

Air release shall be sized to accommodate the release of the maximum amount of entrained air that could be released in the system, as a function of the maximum differential in temperature and pressure which could result in air entrainment, or 2% of the volume of water passing through the system; whichever is greater.

F. Vacuum Release Criteria

The vacuum release shall be sized to accommodate 100% of the CFM of air of the pipeline.

**PART 2 - MATERIALS**

A. Combination Air Release Valves

1. Materials of construction for combination air and vacuum release valves shall be as

B. Steel Vented Pipe Vertical Cover

The steel vented pipe vertical cover shall be Pipeline Products, or approved equal, per VWD standard drawing W-25.

C. Service Piping

Per approved material list.

Water service piping utilized in the installation of the combination air and vacuum relief valve shall be Type K, soft copper with bronze accessories.

D. Meter Box

Meter box and lids shall be per VWD Approved Material List, latest edition.

E. Stainless Steel Pipe

The pipe nipple between the isolation valve and the combination air release assembly shall be brass.

**PART 3 - EXECUTION**

A. Location

1. Combination air-vacuum/air-release valves shall be installed at each point in the pipeline as shown on the drawings or as specified by the District representative.

2. The tap for the air valves shall be made in a level section of pipe no closer than 18 inches to a bell, coupling, joint, or fitting. No tap shall be permitted in any machined section of ACP.

B. Installation

1. Combination valves shall be installed in accordance with VWD standard drawings W-2, or W-3, or W-24 and W-25.
2. The tap and piping shall be installed per Section 15057.
3. The concrete pad and support shall be constructed per Section 03300. Riser piping shall extend through concrete slab and wrapped in 10 mil. tape.
4. Clean threaded joints by wire brushing or swabbing. Apply Teflon joint compound or Teflon tape to pipe threads before installing threaded valves. Joints shall be watertight.
5. The combination valve and the steel vented pipe cover shall be painted in accordance with Section 09900. The final coat of paint shall be applied immediately prior to the final inspection.

C. Valve Pressure Testing

1. Test valves at the same time that the connecting pipelines are pressure tested. See Section 15042 for pressure testing requirements.
2. Protect or isolate any parts whose pressure rating is less than the test pressure.

**END OF SECTION**