

SECTION 15191

AIR RELEASE, BLOW-OFF OUTLETS AND RELATED COMPONENTS **(Contractor Furnished)**

PART 1: GENERAL

1.01 SCOPE

Furnish and install air release and blow-off outlets at the locations shown on the Drawings or as directed by the Engineer.

1.02 SUBMITTALS

Submit shop drawings and manufacturer's literature for equipment to be supplied to the Engineer for approval in accordance with Specification Section 1300. All Products shall meet the requirements of NSF 61.

1.03 REFERENCES

Refer to current AWWA Standards:
AWWA Standard for Air-Release, Air/Vacuum, and Combination Air Valves for waterworks Service C512

PART 2: PRODUCTS

2.01 COMBINATION AIR/VACUUM RELEASE VALVES

Provide 1" APCO Model No. 143C as manufactured by Valve and Primer Corporation (Schaumburg, IL) or 1" Valvematic (Elmhurst, IL) Model 201C.2 for mains 12" and smaller unless noted otherwise on the plans. Provide 2" APCO Model No. 145C as manufactured by Valve and Primer Corporation or Valvematic Model 202C.2 for mains 16" and larger unless noted otherwise on the plans. Combination valves shall be double acting to prevent accumulation of air in the pressurized main and to permit air to enter the pipe when pressure seriously drops. Bodies shall be cast iron with stainless steel floats.

2.02 BLOW OFF FLUSHING HYDRANT ASSEMBLY

Blow off assembly for underground applications shall be designed to fit within a standard valve box. In areas prone to cold weather they shall be self draining and non-freezing. All working parts shall be serviceable from above with no digging required. They shall be operated such that the device goes from full open to full close in a ¼ turn clockwise turn. Approved types of flushing hydrants are Tru-Flo Model TF 500 by the Kupferle Foundry or equal. Blow off Flushing Hydrant Assembly shall be installed on 6" and smaller dead end main installations as shown on the plans or as directed by the Engineer.

2.03 COPPER PIPE

Copper pipe shall be Type L or Type K, as specified in plans, meeting the requirements of ASTM Standard B88.

2.04 CORPORATION STOPS

Corporation stops shall be of the brass ball valve type manufactured in accordance with AWWA Standard C800. The inlet connection shall have standard AWWA tapered threads unless otherwise required by the Engineer. The outlet connection shall be a compressed fitting end. The size shall be 2" and shall match the size of specified copper pipe material.

Acceptable manufacturers and model numbers are:

- Ford Meter Box Company - FB400 thru FB1600
- Mueller – B-25000
- A.Y. McDonald – 4701B Series

2.05 CURB STOPS

Curb stops shall be bronze body construction, ball valves, with Double O-ring stem seals. Curb stops shall conform to AWWA Standard C800. End connections shall be suitable for flared copper connection. If required by the Engineer, valves shall be furnished with square gate valve operating nuts. The size shall be 2" and shall match the size of specified copper pipe material.

Acceptable manufacturers and model numbers:

- Ford Meter Box Company – B22 Series
- Mueller - B-25204
- A.Y. McDonald - 6100 Series

2.06 CURB BOXES

Curb boxes shall be standard cast iron, sliding or screw type, 2-1/2" as required, complete with lid and head bolt. Boxes shall be adjustable from 18-inches to 66-inches. The box size will be determined by the Engineer.

Acceptable manufacturers:

- Bingham & Taylor
- Mueller
- Handley Industries
- Clay & Bailey
- A.Y. McDonald
- Quality Water Products

2.07 MISCELLANEOUS LINE FITTINGS

Miscellaneous line fittings such as couplings, adaptors, saddles, bends, plugs, water service electrical insulators, etc. shall conform to AWWA Standard C800.

Acceptable manufacturers:

- Ford Meter Box
- Mueller
- A.Y. McDonald

PART 3: EXECUTION

3.01 INSTALLATION

See Specification Section 15000 for pipe installation. See detail drawings showing installation details for air/vacuum release valve assemblies and air blow-off assemblies. See section 15200 for information about selected components (copper pipe, corporation stops, curb stops, curb boxes) common to service lines.

3.02 INSTALLATION OF CORPORATION STOPS

Use experienced craftsmen familiar with installation of water lines when tapping water mains. Make all taps with a suitable tapping machine (Mueller, Ford, Hays or Dresser type) using the proper combined drill and tap.

Inspect corporation stops for cleanliness, damaged threads, and proper operation of the ball valve prior to installation. Do not install corporation stops that fail this inspection.

The main may be vertically tapped at the twelve o'clock position on the horizontal centerline on the top of the pipe as shown on Detail Drawings. Install all corporation stops utilizing an approved tapping saddle as listed in Section 15200.2.06. No directing tapping of the main is allowed.

Use the procedure outlined in AWWA Standard C600 for installing taps on grey iron or ductile iron mains encased in polyethylene.

Excavate, backfill, and restore the surface in accordance with Division 2 of these Specifications.

Install copper pipe between the corporation stop and the curb stop or air release valve location making only gradual changes in grade or alignment, as required. Do not make bends greater than 15 degrees in any direction.

Open the corporation stop slowly to fill the line. Perform a visual leak inspection of all piping, fittings, and taps after all air is removed and prior to backfilling. Zero leakage is allowed in 10 minutes.

Provide polyethylene encasement, or other protective wrap approved by the Engineer, on all lines (pipe, valves, stops, etc.). Polyethylene encasement shall extend along the entire length of the line that is buried.

Install the curb box centered over the nut. Install and adjust the curb boxes to be flush with finished grade. (As applicable)

END OF SECTION