

SECTION 22 60 00

COMPRESSED AIR PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. The Conditions of the Contract and applicable requirements of Division 1, "General Requirements", and Section 23 01 00, "Mechanical General Provisions", govern this Section.

1.2 SCOPE OF WORK:

- A. Work Included: Provide all labor, materials, equipment, tools and services, and perform all operations required in connection with or properly incidental to the construction of complete compressed air system to serve equipment and air outlets as indicated on the Drawings, and as required for a complete and functional system.

1.3 QUALITY ASSURANCE:

[EDIT TO SUIT PROJECT]

- A. Acceptable Manufacturers: Provide products complying with these specifications and produced by one of the following:
 - 1. Galvanized Steel Pipe: Provide pipe manufactured by one of the manufacturer's listed in the latest edition of the American Petroleum Institute (API) approved manufacturer listing. **[All pipe shall be domestically manufactured] [all foreign pipe shall be clearly indicated on the pipe submittal and shall include documentation of compliance with applicable ASTM and ANSI standards].**

1.4 SUBMITTALS:

- A. Shop Drawing submittals shall include, but not be limited to, the following:
 - 1. Cut sheets of compressed air pipe, valves, fittings and other required accessories clearly indicating all features, options, materials and dimensions.
 - 2. Additional information as required in Section 23 01 00.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Deliver compressed air piping system components in factory-fabricated water-resistant wrapping.
- B. Handle compressed air piping system components carefully to avoid damage to material component, enclosure and finish.
- C. Store compressed air piping system components in a clean, dry space and protect from the weather.

PART 2 - PRODUCTS

2.1 COMPRESSED AIR PIPE AND FITTINGS:

- A. Piping: All compressed air piping above grade shall be Schedule 40 galvanized steel pipe conforming to ASTM A-120 and ANSI B36.20. Underground air piping shall be Type 'K' soft drawn copper and shall not have any fittings installed in concealed locations. Piping shall be protected as specified in Section 22 00 00 for underground domestic water piping.

- B. Fittings: Piping 2" and smaller shall be joined using Class 150 galvanized threaded fittings (ANSI B16.3). Thread sealing tape shall be used in all threaded connections. Copper pipe fittings shall be wrought copper brazed end fittings assembled using 95/5 tin-antimony or tin-silver solder.

2.2 VALVES AND TRIM:

A. Ball Valves:

1. Ball valves shall be tow piece, full line size (full port) [**chromium plated brass**] [**316 stainless steel**] balls [**and stems**] [, **brass stems**] and reinforced seats and stuffing box rings. All ball valves shall be designed to permit repacking while valve is in line. Valves shall be furnished with blowout proof stems.
2. Ball valves 2" and smaller shall be threaded body bronze or brass valves of a [**full**] [**standard**] port design. Valves shall be rated for 300 psi WOG and shall conform to Federal Specification WW-V-35B. Valves shall be:
 - a. Apollo No. 77-100 Series [**standard port**].
 - b. Crane No. 9032 Series [**standard port**].
 - c. Nibco No. T-585 Series [**full port**].
 - d. Red and White No. 5044 Series [**full port**].
 - e. Stockham No. S-216-BR-R-T [**standard port**].
 - f. Victaulic Style 722 [standard port].

- B. Quick Connect Outlets: Provide brass quick connect fittings and ball valves at all air outlet locations. Provide a matching hose side quick connect fitting at each air outlet.

2.3 HANGERS AND SUPPORTS:

- A. General: Refer to Sections 23 03 00 and 22 00 00 for hanger and support requirements. Compressed air piping shall be supported as specified for domestic water piping.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. General: All piping, fittings and accessories shall be installed in strict accordance with the industry standard practice and applicable codes.
- B. Pipe Slope: Slope all main piping to valved drain points.
- C. Taps: Air drops from main piping shall rise vertically off of the main and then turn down so as to limit moisture carryover to the air drops. Mains shall be sloped 1/4" per 10 feet to drain legs with a valve and hose connection at the bottom of each drain leg.
- D. Valves: Provide isolation (ball) valves in each tap from the system main and at each air outlet, equipment connection, at the base of each riser and at system drain points.
- E. Buried Piping: Excavation and backfill for buried piping shall be as specified in Sections 23 03 00 and 22 00 00. Pipe shall be protected as specified in Section 22 00 00 for underground domestic water piping. Fittings shall not be installed in underground piping.
- F. Equipment: Air lines routed to equipment furnished by other trades shall be extended to the equipment connection point and provided with a ball valve and suitable union (dielectric if dissimilar metals are involved). Coordinate final air connections to equipment with the installing trade.
- G. Hangers and Supports: The entire piping system and related hangers and supports shall be installed such that the piping system is properly aligned and free of stress. Refer to Sections 23 03 00 and 22 00 00 for additional requirements.

3.2 TESTING:

- A. Test compressed air piping as specified in Sections 23 05 93 and 22 00 00.

3.3 IDENTIFICATION:

- A. Refer to Section 23 03 00 for applicable painting, nameplate and labeling requirements.

END OF SECTION 22 60 00