

PNEUMATIC CONTROL SYSTEM FOR HVAC

1. GENERAL

1.1 Summary

.1 Section Includes:

- .1 Pneumatic control components for typical commercial building specification.

.2 Related Sections:

- .1 23 09 93 - Sequence of Operations for HVAC Controls.

1.2 References

.1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

- .1 Material Safety Data Sheets (MSDS).

1.3 Submittals

.1 Product Data:

- .1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section 01 33 00 - Submittal Procedures. Include product characteristics, performance criteria, and limitations.

- .1 Submit two copies of Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS) in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

- .2 Provide diagrams showing normal positions, model numbers, air piping and wiring layouts.

- .3 Provide valve and damper schedule indicating size, configuration, capacity and locations. If size varies greater than 10%, obtain approval of Contract Administrator.

- .4 Provide technical literature on components.

.3 Quality assurance submittals: submit following in accordance with Section 01 33 00 - Submittal Procedures.

- .1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

- .2 Instructions: submit manufacturer's installation instructions.

- .1 Contractor will make available 1 copy of systems supplier's installation instructions.

PNEUMATIC CONTROL SYSTEM FOR HVAC

.4 Closeout Submittals

- .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 Delivery, Storage, and Handling

.1 Packing, shipping, handling and unloading:

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

2. PRODUCTS

2.1 Air Pressure Gauges

- .1 At components and as indicated, minimum 40 mm diameter, with applicable range.

2.2 Pilot Positioners

- .1 Full relay type: with interconnecting linkage for mechanical feedback on damper and valve operators acting in unison or sequenced from single controller.

2.3 Valves

- .1 Pressure rating: as indicated.
- .2 Valve operators: spring return for "fail safe" in normally open or normally closed position, as indicated.
- .3 Water valves:
 - .1 Three-way diverting: linear characteristics.
 - .2 Flow rate and maximum pressure drop: as indicated.

2.4 Control Air Tubing

- .1 Copper: type L complete with flared fittings.

3. EXECUTION

3.1 Manufacturer's Instructions

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 Installation

- .1 Identify and code pneumatic tubing at every branch and at each piece of equipment and components.

PNEUMATIC CONTROL SYSTEM FOR HVAC

- .2 Follow building lines. Do not cover with insulation. Install drip legs and drains at low points.
- .3 Install pilot positioners on operators.
- .4 Install refrigerated air dryer on 3 valve bypass.

3.3 Field Quality Control

- .1 Start-Up and Adjustment:
 - .1 Upon completion of installation, test, adjust and regulate controls or safety equipment provided under this Section.
 - .2 Adjust and place in operating condition.

3.4 Cleaning

- .1 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION