

SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Access Doors.
- B. Balancing and Control Dampers.
- C. Flexible Connections

1.2 RELATED WORK

- A. Section 230713 - Ductwork Insulation.
- B. Section 233100 - HVAC Duct and Casings.

1.3 REFERENCES

- A. NFPA 90 - Standard for the Installation of Air-Conditioning and Ventilating Systems.

1.4 QUALITY ASSURANCE

- A. Accessories shall meet the requirements of NFPA 90.
- B. Fabricate in accordance with ASHRAE handbooks and SMACNA duct manuals.
- C. Access doors shall be UL labeled.
- D. Louver performance requirements: Provide units whose performance ratings have been determined in compliance with Air Movement and Control Association (AMCA) Standard 500.
 - 1. Comply with SMACNA "Architectural Sheet Metal Manual" recommendations for fabrication, construction details and installation procedures, except as otherwise indicated.
 - 2. Field Measurements: Verify size, location and placement of louver units prior to fabrication.
 - 3. Shop Assembly: Coordinate field measurements and shop drawings with fabrication and shop assembly to minimize field adjustments, splicing, mechanical joints and field assembly of units. Preassemble units in shop to greatest extent possible and disassemble as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Provide units of a single assembly wherever possible.

1.5 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 013300.
- B. Submit shop drawings of factory fabricated assemblies.

- C. Submit samples, under provisions of Section 013300, of shop fabricated assemblies as requested.
- D. Submit manufacturers' installation instruction under provisions of Section 013300.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Air Balance
- B. Ruskin.
- C. American Warming and Ventilating Company.
- D. Johnson Controls.
- E. Prefco.
- F. Airstream.
- G. Greenheck
- H. Aerosonics
- I. Substitutions: Approved equal under provisions of Section 012500.
- J. Manufacturer's as listed under individual items.

2.2 ACCESS DOORS

- A. Fabricate rigid and close-fitting doors of material matching ductwork in which they are installed with sealing gaskets and quick fastening locking devices. Provide minimum one inch thick insulation with sheet metal cover.
- B. Provide continuous piano-type hinge and one sash lock for sizes up to 16 inch square, continuous piano-type hinge and two compression latches for sizes up to 24 X 24 inch. Doors shall have a maximum air leakage of 0.13 CFM sq. ft. at 0.10" S.P. when tested in accordance with AMCA Std. 500. Provide round transparent plexiglass window where specified. Doors shall be equal to Ruskin Models ADH22 or ADHW22.
- C. For larger access doors, provide continuous piano-type hinge, extruded aluminum frame with mitered corners and 24 gauge galvanized steel panel, aluminum framed 9" x 9" 1/4" wire glass window where specified, heavy duty extruded aluminum frame with 1-1/2" front flanges, neoprene seals, two dual acting handles for doors to 48" high and three for 51" and higher, 3/4" from board insulation R value 5.5, and low leakage of less than 0.1 CFM per inch of door perimeter based on AMCA 500 tests. Equal to Ruskin Model GPAD.
- D. All access doors shall be rated for the specified seal class of the associated ductwork.

2.3 BALANCING DAMPERS

- A. Fabricate of material matching ductwork in which they are installed, minimum 16 gauge, and provide with quadrants or adjustment rod and lock screw. Where duct is insulated provide brackets to allow insulation to be installed continuously behind operators, quadrants, etc..
- B. Fabricate splitter dampers of double thickness sheet metal to stream line shape properly stiffened to avoid vibration. Size on basis of straight air volume proportioning.
- C. Fabricate single blade dampers for duct sizes to 9-1/2 X 30 inch.

2.4 FLEXIBLE CONNECTIONS

- A. Fabricate of neoprene coated flameproof fabric approximately 2 inch wide tightly crimped into metal edging strip and attach to ducting and equipment by screws or bolts at 6 inch intervals.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install items in accordance with manufacturer's instructions.

3.2 APPLICATION

- A. Provide access doors for inspection and cleaning before and after filters, coils, fans, automatic damper, at fire dampers, and elsewhere as indicated. Review locations prior to fabrication. Provide access doors with vision panels on all doors larger than 24 x 24. On doors smaller than 24 x 24, provide vision panels at automatic dampers, and generator discharge plenums. Systems subject to condensation shall have solid access doors, without visions panels.
- B. Provide 4 X 4 inch quick opening access doors for inspection at each balancing damper.
- C. Provide balancing dampers at points on low pressure supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing.
- D. Provide flexible connections immediately adjacent to equipment in ducts associated with fans and equipment subject to forced vibration.
- E. Where ductwork is to be insulated, assure duct mounted devices have extended necks, operators, etc. to allow complete and continuous insulation of ductwork and maintain insulation vapor barrier continuity.

3.3 ADJUSTING, CLEANING, AND PROTECTING

- A. Periodically clean exposed surfaces of accessories, louvers and vents that are not protected by temporary covering to remove fingerprints and soil during construction period. Do not let soil accumulate until final cleaning.
- B. Before final inspection, clean exposed surfaces with water and mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.

END OF SECTION 233300