SECTION 23 33 00 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Backdraft and pressure relief dampers.
2. Control dampers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For duct accessories. Include plans, elevations, sections, details and attachments to other work.

1. Detail duct accessories fabrication and installation in ducts and other construction. Include dimensions, weights, loads, and required clearances; and method of field assembly into duct systems and other construction. Include the following:

a. Special fittings.
b. Manual volume damper installations.
c. Control-damper installations.
d. Fire-damper, smoke-damper, combination fire- and smoke-damper, ceiling, and corridor damper installations, including sleeves; and duct-mounted access doors and remote damper operators.

1.4 INFORMATIONAL SUBMITTALS

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air duct accessories to include in operation and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

2.2 MATERIALS

A. Galvanized Sheet Steel: Comply with ASTM A653/A653M.

1. Galvanized Coating Designation: G60 (Z180).
2. Exposed-Surface Finish: Mill phosphatized.

2.3 BACKDRAFT AND PRESSURE RELIEF DAMPERS

A. Description: Gravity balanced.

B. Maximum Air Velocity: 2000 fpm.

C. Maximum System Pressure: 1-inch wg.

D. Frame: Hat-shaped, 0.094-inch- thick, galvanized sheet steel with welded corners or mechanically attached and mounting flange.

E. Blades: Multiple single-piece blades, end pivoted, maximum 6-inch (150-mm) width, 0.050-inch-(1.2-mm-) thick aluminum sheet with sealed edges.

F. Blade Action: Parallel.

G. Blade Seals: Neoprene, mechanically locked.

H. Blade Axles:

1. Material: Stainless steel.
2. Diameter: 0.20 inch (5 mm).

I. Tie Bars and Brackets: Galvanized steel.

J. Return Spring: Adjustable tension.

K. Bearings: Steel ball or synthetic pivot bushings.

L. Accessories:

1. Adjustment device to permit setting for varying differential static pressure.
2. Counterweights and spring-assist kits for vertical airflow installations.
3. Electric actuators.
4. Screen Mounting: Front mounted in sleeve.

   a. Sleeve Thickness: 20 gauge (1.0 mm) minimum.
   b. Sleeve Length: 6 inches (152 mm) minimum.

5. Screen Mounting: Rear mounted.
6. Screen Material: Aluminum.
7. Screen Type: Bird.
8. 90-degree stops.

2.4 CONTROL DAMPERS

A. Low-leakage rating, and bearing AMCA's Certified Ratings Seal for both air performance and air leakage.

B. Frames:

1. Angle shaped.
2. 0.05-inch- (1.3-mm-) thick stainless steel.
3. Mitered and welded corners.

C. Blades:

1. Multiple blade with maximum blade width of 6 inches (152 mm).
2. Opposed-blade design.
3. Galvanized-steel or Aluminum.
4. 0.064 inch (1.62 mm) thick single skin or 0.0747-inch- (1.9-mm-) thick dual skin]
5. Blade Edging: PVC.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts.

B. Set dampers to fully open position before testing, adjusting, and balancing.

C. Install test holes at fan inlets and outlets and elsewhere as indicated.

3.2 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Operate dampers to verify full range of movement.
2. Inspect locations of access doors and verify that purpose of access door can be performed.

END OF SECTION 233300