

## SECTION 233713.13 - AIR DIFFUSERS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Louver face diffusers.
2. Linear slot diffusers.
3. High-capacity drum louver / plenum.

B. Related Requirements:

1. Section 233300 "Air Duct Accessories" for fire and smoke dampers and volume-control dampers not integral to diffusers.
2. Section 233713.23 "Registers and Grilles" for adjustable-bar register and grilles, fixed-face registers and grilles, and linear bar grilles.

#### 1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
2. Diffuser Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

#### 1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Ceiling suspension assembly members.
2. Method of attaching hangers to building structure.
3. Size and location of initial access modules for acoustical tile.
4. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
5. Duct access panels.

B. Source quality-control reports.

## PART 2 - PRODUCTS

### 2.1 LOUVER FACE DIFFUSERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
  - 1. Price.
  - 2. Titus.
  - 3. Krueger.
- B. Material: See Schedule.
- C. Finish: See Schedule.
- D. Face Size: See Schedule.
- E. Mounting: See Schedule.
- F. Pattern: See Schedule.

### 2.2 LINEAR SLOT DIFFUSERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
  - 1. Price.
  - 2. Titus.
  - 3. Krueger.
- B. Devices shall be specifically designed for variable-air-volume flows.
- C. Material - Shell: See Schedule.
- D. Material - Pattern Controller and Tees: See Schedule
- E. Finish - Face and Shell: See schedule.
- F. Finish - Pattern Controller: See Schedule
- G. Finish - Tees: See Schedule.
- H. Slot Width: See Schedule.
- I. Number of Slots: See Schedule
- J. Length: See Schedule
- K. Accessories: See Schedule.

## 2.3 HIGH-CAPACITY DRUM LOUVER / PLENUMS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
  - 1. Price.
  - 2. Titus.
  - 3. Krueger.
- B. Airflow Principle: Extended distance for high airflow rates.
- C. Material: Aluminum, heavy gage extruded.
- D. Finish: White baked acrylic.
- E. Border: 1-1/4-inch width with countersunk screw holes.
- F. Gasket between drum and border.
- G. Body: Drum shaped; adjustable vertically.
- H. Blades: Individually adjustable horizontally.
- I. Mounting: Surface to duct.
- J. Plenum Inlet Width: See Schedule
- K. Plenum Inlet Length: See Schedule.
- L. Plenum dimensions: See Schedule.
- M. Grille Size: See Schedule.
- N. Grille Quantity: See Schedule.
- O. Nominal CFM: See Schedule.
- P. Accessories:
  - 1. Opposed-blade steel damper.
  - 2. Duct-mounting collars with countersunk screw holes.

## 2.4 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate diffusers according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas where diffusers are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install diffusers level and plumb.
- B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.
- C. Install diffusers with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

### 3.3 ADJUSTING

- A. After installation, adjust diffusers to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 233713.13