

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING  
SECTION 23 37 13 – DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

1.1 WORK INCLUDES

A. Base Bid

1. Ventilating Contractor
  - a. Perforated diffusers.
  - b. Linear slot diffusers.
  - c. Adjustable bar registers.
  - d. Fixed face grilles.

1.2 RELATED WORK

- A. Section 233300 "Air Duct Accessories" for fire and smoke dampers and volume-control dampers not integral to diffusers, registers, and grilles.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated, include the following:

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, Register, and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

PART 2 - PRODUCTS

2.1 CEILING DIFFUSERS

A. Perforated Diffuser

1. Devices shall be specifically designed for variable-air-volume flows.
2. Material: Steel backpan and pattern controllers, with aluminum face.
3. Finish: Baked enamel, white.
4. Face Size: **24 by 24 inches**
5. Duct Inlet: Round
6. Face Style: Flush
7. Mounting: T-bar
8. Pattern Controller: Four louvered deflector patches
9. Dampers: Opposed blade

## 2.2 CEILING LINEAR SLOT OUTLETS

### A. Linear Slot Diffuser

1. Devices shall be specifically designed for variable-air-volume flows.
2. Material - Shell: Aluminum, insulated.
3. Material - Pattern Controller and Tees: Aluminum.
4. Finish - Face and Shell: Baked enamel, black.
5. Finish - Pattern Controller: Baked enamel, black
6. Finish - Tees: Baked enamel, white
7. Slot Width: See Schedule on plans
8. Number of Slots: See Schedule on plans
9. Length: **48 inches**

## 2.3 REGISTERS AND GRILLES

### A. Adjustable Bar Register

1. Material: Aluminum
2. Finish: Baked enamel, white
3. Face Blade Arrangement: Horizontal
4. Core Construction: Integral
5. Rear-Blade Arrangement: Vertical.
6. Frame: **1-1/4 inches** wide.
7. Damper Type: Adjustable opposed blade

### B. Fixed Face Grille

1. Material: Aluminum
2. Finish: Baked enamel, white
3. Core Construction: Integral
4. Frame: **1-1/4 inches** wide.

## 2.4 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate diffusers, registers, and grilles 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, registers, and grilles are to be 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, registers, and grilles 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, registers, and grilles 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, registers, and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 233713

