

SECTION 238000 - AIR DISTRIBUTION DEVICES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. All work specified in this section is governed by the Mechanical General Section 230100.
- B. This Section 238000 and the accompanying drawings cover the provisions of all labor, equipment, appliances and materials, and performing all operations in connection with the construction and installation of air distribution devices as specified herein and as shown. These units include, but are not limited to the following:
 - 1. Ceiling Diffusers (CD)
 - 2. Return Air Grilles (RAG)
 - 3. Exhaust Registers (ER)
 - 4. Supply Registers (SR)
 - 5. Transfer Grilles (TG)

1.2 INTENT

- A. It is the intent of this Section of the specifications to provide complete, operable, adjusted air distribution devices as shown and specified which are free of excessive noise, vibration and airflow fluctuations.

1.3 SELECTION CRITERIA

- A. All air distribution devices shall be selected in accordance with the following minimum criteria unless otherwise noted below or on the drawings:
 - 1. Method of mounting shall be compatible with the ceiling, wall or duct surface which it mounts on or in; i.e. lay-in, surface mounting, plaster frame, duct collar, etc. The architectural drawings shall be referenced to determine the mounting method for each device. All flanges on surface mounted devices shall be provided with a gasket.
 - 2. Finish of all ceiling mounted devices shall be selected to match the color of the adjacent ceiling. Finish of all wall mounted devices shall be primer which is compatible with the finish coating specified for the adjacent wall; finish coat will be applied under Division 9.

1.4 BASIS OF DESIGN

- A. The basis of design is Carnes. Any proposed substitutions shall be proven equal in all respects to the equipment specified as the basis of design. Any modifications to ductwork, controls, ceilings, building structure, etc., that result from any substitution shall be coordinated with all trades. This coordination shall occur before delivery of equipment and any modifications shall be performed without incurring additions to the Contract.

1.5 ACCEPTABLE MANUFACTURERS

- A. Acceptable manufacturers are Price, Metal Aire, Titus and Nailor Industries, provided that their

units, performance, appearance and physical characteristics are equal in all respects for this specific project.

PART 2 - PRODUCTS

2.1 DESCRIPTION

A. Ceiling Diffuser (CD)

1. Ceiling diffusers shall be perforated face diffusers equipped with fully adjustable pattern controls, capable of providing one-way, two-way, two-way corner, three-way, and four-way air patterns; Carnes SPAB. Diffuser performance data shall be in accordance with ADC equipment test code 162R4. The perforated face shall be hinged for easy access to pattern controls and duct accessories. The maximum NC level at design airflow shall not exceed 35 when measured in a direct field 5'-0" from the face of the device.

B. Return Air Grilles (RAG)

1. Return air grilles shall be hollow core, perforated face, lay-in type, selected to match the CDs; Carnes SPRB. Performance data shall be in accordance with ADC 1062R4. All other characteristics shall be equal to the ceiling diffusers.

C. Exhaust Registers (ER)

1. Exhaust registers shall be surface mounted, fixed curved blade steel registers with blades at 0.666 to 0.750 inches on center. Provide opposed blade dampers with each ER for balancing purposes. ERs shall be Carnes RWLA (aluminum) Carnes RTLB (steel) sized as indicated.

D. Supply Registers (SR)

1. Supply registers shall be surface mounted, steel, adjustable double-deflection type complete with opposed blade dampers for balancing purposes. The outermost set of deflection blades shall be parallel to the long dimension of the SR and the innermost set of deflection blades shall be parallel to the short dimension of the SR. The registers shall be tested in accordance with ADC standards and shall be selected to provide design airflow at a maximum NC of 35. SRs shall be Carnes RTDB Series, sized as indicated.

E. Transfer Grilles (TG)

1. Transfer grilles shall be similar to return air grilles (RAG)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Air distribution devices shall be installed as indicated and in conformance with the manufacturer's recommendations. The color, frame, and border types shall be coordinated with Architectural requirements and shall be selected to install in the finished surface indicated.
- B. All air distributions devices to be reused shall be installed the same way as indicated for new devices. All existing color, frame, and border types shall modified as required to match new device requirements.

3.2 ADJUSTMENT

- A. Grilles, registers and diffusers shall be tested and adjusted to provide the scheduled air flow capacities.
- B. All adjustable air distribution devices located within three feet of any wall shall be set to blow directly away from, or parallel to, the wall.
- C. In all slot diffuser applications, the inactive sections of the slot shall be finished with perforated steel, painted flat black, selected to match the CDs. These sections shall be open to the plenum as a return air path.

END OF SECTION 238000