



SECTION 23 37 00 - AIR OUTLETS AND INLETS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Diffusers.
 - 2. Registers
 - 3. Grilles.

PART 2 - PRODUCTS

2.1 ROUND CEILING DIFFUSERS

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Product Description: Type: Round, adjustable pattern, stamped or spun, multi-core diffuser to discharge air in 360 degree pattern, with sector baffles where indicated. Diffuser collar not more than 1 inch above ceiling. In plaster ceilings, furnish plaster ring and ceiling plaque.
- C. Fabrication: Steel or aluminum with baked enamel off-white finish.

2.2 RECTANGULAR CEILING DIFFUSERS

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Type: Square and rectangular, adjustable pattern, multi-louvered diffuser.
- C. Frame: To match the architectural surface.
- D. Fabrication: Steel or Aluminum with baked enamel off-white finish.

2.3 PERFORATED FACE CEILING DIFFUSERS

- A. Manufacturers:
 - 1. **Anemostat.**



2. **Price.**
3. **Titus.**

- B. Type: Perforated face with fully adjustable pattern and removable face.
- C. Frame: To match architectural surface.
- D. Fabrication: Steel or aluminum with steel frame and baked enamel off-white finish.

2.4 CEILING SLOT DIFFUSERS (LINEAR)

- A. Manufacturers:
 1. **Anemostat.**
 2. **Price.**
 3. **Titus.**
- B. Type: Continuous with size and number of slots and adjustable vanes for left, right or vertical discharge.
- C. Fabrication: Aluminum extrusions or Steel with factory finish and color to be selected by architect.
- D. Frame: To match architectural surface.

2.5 CEILING SUPPLY REGISTERS/GRILLES

- A. Manufacturers:
 1. **Anemostat.**
 2. **Price.**
 3. **Titus.**
- B. Type: Streamlined and individually adjustable curved blades to discharge air along face of grille, two-way deflection.
- C. Frame: 1 inch margin with countersunk screw mounting and gasket.
- D. Fabrication: Steel or aluminum extrusions with factory off-white enamel finish unless noted otherwise.
- E. Damper: Integral, gang-operated, opposed-blade type with removable key operator, operable from face.

2.6 CEILING EXHAUST AND RETURN REGISTERS/GRILLES

- A. Manufacturers:
 1. **Anemostat.**
 2. **Price.**



3. **Titus.**

- B. Type: Streamlined blades, 3/4 inch minimum depth, 3/4 inch maximum spacing, with blades set at 45 degrees.
- C. Frame: 1 inch margin with countersunk screw mounting.
- D. Fabrication: Steel with 20 gauge minimum frames and 22 gauge minimum blades, steel and aluminum with 20 gauge minimum frame, or aluminum extrusions, with factory off-white baked enamel finish.
- E. Damper: Integral, gang-operated, opposed blade type with removable key operator, operable from face where not individually connected to exhaust fans.

2.7 CEILING GRID CORE EXHAUST AND RETURN REGISTERS/GRILLES

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Type: Fixed grilles of 1/2 x 1/2 x 1 inch louvers.
- C. Fabrication: Steel or aluminum with off-white finish.
- D. Frame: 1 inch margin with countersunk screw mounting. Channel lay-in frame for suspended grid ceilings.

2.8 CEILING LINEAR EXHAUST AND RETURN GRILLES

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Type and materials to match those provided for supply air.

2.9 WALL SUPPLY REGISTERS/GRILLES

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Type: Streamlined and individually adjustable blades, 3/4 inch minimum depth, 3/4 inch maximum spacing with spring or other device to set blades, double deflection.



- C. Frame: 1 inch margin with countersunk screw mounting and gasket.
- D. Fabrication: Steel with 20 gauge minimum frames and 22 gauge minimum blades, steel and aluminum with 20 gauge minimum frame, or aluminum extrusions, with factory off-white baked enamel finish.
- E. Damper: Integral, gang-operated opposed blade type with removable key operator, operable from face.

2.10 WALL EXHAUST AND RETURN REGISTERS/GRILLES

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Type: Streamlined blades, 3/4 inch minimum depth, 3/4 inch maximum spacing, with spring or other device to set blades, horizontal face.
- C. Frame: 1 inch margin with countersunk screw mounting.
- D. Fabrication: Steel or aluminum with 20 gauge minimum frames and 22 gauge minimum blades, with factory off-white baked enamel finish.
- E. Damper (only if specifically called for on drawings): Integral, gang-operated, opposed-blade type with removable key operator, operable from face.

2.11 LINEAR WALL REGISTERS/GRILLES

- A. Manufacturers:
 - 1. **Anemostat.**
 - 2. **Price.**
 - 3. **Titus.**
- B. Type: Streamlined blades with 15 degree deflection, 1/8 x 3/4 inch on 1/4 inch centers.
- C. Frame: 1 inch margin with countersunk screw mounting and gasket.
- D. Fabrication: Steel or aluminum extrusions, with factory off-white enamel finish.
- E. Damper: Integral gang-operated opposed blade hinged single blade damper with removable key operator, operable from face.

2.12 LOUVERED PENTHOUSE

- A. Manufacturers:
 - 1. **Greenheck.**



2. **Industrial Louvers Inc.**
 3. **Ruskin.**
- B. Fabrication: Completely welded assembly. Fabricate with mitered corners. Structural supports rated for 20 psf wind and snow loading. Furnish sill water catch with 2 inch high water stop and depth to enclose structural supports.
 - C. Roof: Aluminum construction, standing seam type with formed water baffle plates open at corners for drainage.
 - D. Bird Screen: Interwoven wire mesh of aluminum, 0.063 inch diameter wire, 1/2 inch open weave.
 - E. Roof Curb: 12 inch high self-flashing galvanized steel construction with continuously welded seams 1 inch insulation and curb bottom, hinged curb adapter.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install diffusers, registers, and grilles level and plumb.
- B. Ceiling-Mounted Outlets and Inlets: 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 LAWA 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.
- D. Carefully install all ceiling mounted air distribution devices back pan insulation and vapor barrier. Where pre-molded insulation and vapor barrier is not furnished as an accessory to the air distribution device by the manufacturer the Contractor is responsible for field installation of insulation and vapor barrier for ceiling air distribution device back pans.
- E. All visible interior surfaces of all grilles and air device accessories and components visible through the face of the outlet shall be factory painted flat black.
- F. Install a manual volume damper in the branch duct to the air distribution device or at the conical bell-mouth spin-in fitting for connection of round flexible duct to the rectangular duct for balancing purposes.
- G. Provide all required blank off for directional pattern.
- H. Diffusers Utilizing a Plenum Box: Provide plenum box fabricated of 24 USBG galvanized steel, with internal surfaces lined with minimum 1/2 inch thick duct liner.
- I. Install return and exhaust registers with blades oriented to prevent sight through outlets.



- J. Transfer Grilles: Provide 2 grilles, one on each side of wall with connecting sheet metal collar.
- K. Transfer Ducts: Provide 2 grilles, one at each end of duct.

3.2 ADJUSTING

- A. After installation, adjust diffusers, registers, and grilles before starting air balancing.

END OF SECTION 23 37 00