

Suggested Specifications

Price Custom Flow Linear Slot Diffusers

Division 23 – Heating, Ventilating, and Air Conditioning

Section 23 37 13 – Diffusers, Registers, and Grilles

The following specification is for a defined application. Price would be pleased to assist in developing a specification for your specific need.

PART 1 – GENERAL

1.01 Section includes:

- A. Custom Flow Linear Slot Diffusers

1.02 Related Requirements

- A. Section 01 30 00 – Administrative Requirements
- B. Section 01 40 00 – Quality Requirements
- C. Section 01 74 21 – Construction/Demolition Waste Management and Disposal
- D. Section 01 78 00 – Closeout Submittals
- E. Section 01 79 00 – Demonstration and Training

1.03 Reference Standards

- A. All referenced standards and recommended practices in this section pertain to the most recent publication thereof, including all addenda and errata.
- B. ASHRAE 70 – Standard Method of Testing the Performance of Air Outlets and Air Inlets
- C. ASTM D610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
- D. ASTM D714 – Standard Test Method for Evaluating Degree of Blistering of Paints
- E. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
- F. ASTM D1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
- G. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub

1.04 Submittals

- A. See Section 01 30 00 – Administrative Requirements for submittal procedures.
- B. Product Data: Provide data indicating configuration, general assembly, and materials used in fabrication. Include catalog performance ratings that indicate airflow, and NC designation.
- C. Shop Drawings: Indicate configuration, general assembly, and materials used in fabrication.
- D. Project Record Documents: Record actual locations of units and control components.
- E. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions (if applicable), and maintenance and repair data.
- F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1.06 Quality Assurance

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum ten years of documented experience.

1.07 Warranty

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide 12 month manufacturer warranty from date of shipment of diffusers.

Suggested Specifications

PART 2 – PRODUCTS

2.01 Manufacturer

- A. Basis of Design: Price Industries, Inc.
 - 1. Adjusta Slot Linear Slot Diffusers: Model CF – Style AS
 - 2. Jet Slot Linear Slot Diffusers: Model CF – Style JS
 - 3. Return Linear Slot Diffusers: Model CF – Style RT
- B. General:
 - 1. The Custom Flow Linear Slot Diffusers are designed for ceiling or sidewall installations requiring horizontal or vertical air patterns for supply applications or return applications:
 - a. The Adjusta Slot (AS) pattern controller produces a horizontal air pattern parallel to the diffuser face utilizing the coanda effect to hold its pattern at a wide range of airflows. The AS pattern controllers can be adjusted to achieve vertical pattern, in addition to partial airflow dampening or full airflow shut-off.
 - b. The Jet Slot (JS) pattern controller produces a vertical air pattern perpendicular to the diffuser face, creating a vertical air pattern for ceiling applications, or a horizontal air pattern for sidewall applications. The JS pattern controllers can be adjusted to achieve horizontal pattern, in addition to partial airflow dampening or full airflow shut-off.
 - c. The Return (RT) style diffusers are designed without the presence of pattern controllers to maximize free area and minimize pressure drop and generated noise in return applications.

2.02 Custom Flow Linear Slot Diffusers

- A. Description:
 - 1. Furnish and install Price model CF linear slot supply and return diffusers in sizes and capacities as shown by the plans and air distribution schedule. Provide drawings accompanied by an itemized list indicating the unit locations and appropriate product submittal drawings provided by the manufacturer. Exact dimensions of the walls and ceiling are per the architectural drawings.
 - 2. The diffusers shall be installed in the ceiling system with suspension wire a maximum of every 48 inches on center, and/or attachment plates, or as required to meet the local building code.
- B. Construction:
 - 1. Standard:
 - a. The linear slot diffusers shall be constructed with extruded aluminum air deflector frames. The frames shall be designed to accommodate notched compressible spacer bars, spaced a maximum of 24 inches on center.
 - b. The diffuser shall be supplied with dual layer coated steel air pattern controllers that shall be room-side adjustable to achieve horizontal, vertical, or angular air patterns, and also to adjust the airflow volume between fully open and fully closed without the use of blank-off devices.
 - c. The spacer bars and pattern controllers shall be easily removable without tools for on-site modification and trimming.
 - d. The linear slot diffusers shall be complete with factory end conditions as shown or indicated on the plans.
 - e. Custom Flow engineered plenums shall be manufactured of heavy gauge wipe coat steel.
 - f. The engineered plenums shall be equipped with a side inlet collar, and shall be [insulated] or [uninsulated], and in the following configurations (**select one**):
 - 1. [CFP]: Engineered plenum.
 - 2. [CFT]: T-bar lay-in linear slot diffuser with integrated engineered plenum.
 - g. The linear slot diffusers shall be supplied with the following frame style for either surface mounting or T-bar lay-in mounting (**select one**):
 - 1. Exposed flange frame (type EF).
 - 2. Concealed mud-in frame (type CMF) [with countersunk screw holes], [with concealed mounting brackets], [with reversible drywall mounting clip], or [with non-reversible drywall mounting clip].
 - 3. Flush mount frame (type FM).
 - 4. 9/16" tegular of Bolt Slot frame (type TG916).
 - 5. TechZone module frame (type TZ).
 - 6. Concealed mud-in/exposed flange hybrid frame (type CMF-EF)
 - 7. Flush Mount/Exposed hybrid frame (type FM-EF)
 - 8. Flush Mount/Concealed mud-in hybrid frame (type FM-CMF)
 - 9. 5/8" offset frame (type OFS) [with drywall mounting clip]
 - 10. Angled frame (type VF) [with drywall mounting clip]
 - 2. MRI (Optional):
 - a. The diffuser shall be supplied with optional MRI construction for use in magnetic resonance imaging room applications.
 - b. Frame and pattern controllers are of aluminum construction, with non-ferrous fasteners and hardware.
 - c. Austenitic stainless steels are not permitted.
- C. Performance:
 - 1. Performance of the selected linear slot diffusers shall be based on catalogued data obtained with the pattern controllers set in the normal operating position and a compatible Price supply air plenum, and tested in accordance with ASHRAE 70.

Suggested Specifications

D. Paint Specification:

1. Paint finish shall be (**select one**):
 - a. All components shall have a baked-on powder coat finish.
 1. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
 2. The paint film thickness shall be a minimum of 2.0 mils.
 3. The finish shall have a hardness of 2H.
 4. The finish shall withstand a minimum salt spray exposure of 1000 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
 5. The finish shall have an impact resistance of 80 inch-pounds.
 - b. All components shall have a custom baked enamel finish in a color to match a customer supplied sample.
 - c. All components shall have an anodized finish.

E. Options (**select all that apply**):

1. Pattern controller style:
 - a. Diffusers shall be supplied with [AS], [JS], or [RT] pattern controller styles to best meet application requirements.
2. Slot width:
 - a. Slot width shall be [1], [1-1/2], [2], [2-1/2] or [3] inches to allow selection flexibility to optimize airflow and performance.
3. Two Slot adjustment:
 - a. A two slot configuration shall allow separate and unique air pattern adjustment for each individual slot.
4. Accessories:
 - a. The diffuser shall be supplied with the following (**select all required**):
 1. RB: Return air sight baffle with heavy gauge steel construction and black finish, and can be [insulated] or [uninsulated].
 2. MB: Blank-off section with heavy gauge steel construction and black finish.

PART 3 – EXECUTION

3.01 Examination

- A. Verify that conditions are suitable for installation.
- B. Verify that field measurements are as shown on the drawings.

3.02 Installation

- A. Install in accordance with manufacturer's instructions.
- B. See drawings for the size(s) and locations of diffusers.

3.03 Field Quality Control

- A. See Section 01 40 00 – Quality Requirements for additional requirements.

3.05 Cleaning

- A. See Section 01 74 19 – Construction Waste Management and Disposal for additional requirements.

3.06 Closeout Activities

- A. See Section 01 78 00 – Closeout Submittals for closeout documentation requirements.
- B. See Section 01 79 00 – Demonstration and Training for addition.