

# Suggested Specifications

## Price High Capacity 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. High Capacity Diffusers.

##### **1.02 Related Requirements**

- A. Section 01 30 00 – Administrative Requirements
- B. Section 01 40 00 – Quality Requirements
- C. Section 01 60 00 – Product Requirements
- D. Section 01 74 21 – Construction/Demolition Waste Management and Disposal
- E. Section 01 78 00 – Closeout Submittals
- F. 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 Standard 55 – Thermal Environmental Conditions for Human Occupancy
- C. ASHRAE Standard 70 – Method of Testing the Performance of Air Outlets and Air Inlets
- D. ASTM 610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
- E. ASTM 714 – Test Method for Evaluating Degree of Blistering of Paints
- F. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
- G. ASTM D1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
- H. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub
- I. NFPA 90A – Standard for the Installation of Air-Conditioning and Ventilating Systems
- J. UL181 – Standard for Factory-Made Air Ducts and Air Connectors
- K. UL/ULC – Underwriters Laboratories Fire Resistance Directory/Underwriters Laboratories of Canada Equipment and Materials Directory

##### **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 air flow, static pressure, and NC designation.
- C. Shop Drawings: Indicate configuration, general assembly, and materials used in fabrication.
- D. Certificates: Certify that air capacities, pressure drops, and selection procedures meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Indicate installation instructions, recommendations, and service clearances required.
- F. Project Record Documents: Record actual locations of units and control components.
- G. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, maintenance and repair data, and parts lists.
- H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements for additional provisions.

##### **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 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide 18 month manufacturer warranty from date of shipment of grilles and registers.

# Suggested Specifications

## PART 2 – PRODUCTS

### 2.01 High Capacity Diffusers

- A. Basis of Design: Price Industries, Inc.
  - 1. High Capacity Drum Louver: HCD1, AHCD1
  - 2. High Capacity Drum Louver with Pattern Control: HCD2, AHCD2
  - 3. Stainless Steel Drum Louver: DLSS

### 2.02 High Capacity Drum Louver

- A. Description:
  - 1. Furnish and install Price Model [HCD1] or [AHCD1] high capacity drum louver supply outlets of sizes and mounting types indicated on the plans and air distribution schedule.
- B. Construction:
  - 1. The outlets shall have steel [HCD1] or aluminum [AHCD1] frame construction, and extruded aluminum drum and vanes.
  - 2. The outlets shall consist of individually adjustable spread control vanes housed within a rotatable drum.
  - 3. The drum pivot mechanism shall incorporate a positive positioning detent device to hold field adjusted drum angles of up to thirty degrees off-center. Adjustable vanes shall pivot and maintain blade setting.
  - 4. The outlet mounting frame shall be constructed of formed steel with welded, reinforced corners for added strength.
  - 5. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.
- C. 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 500 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 finish in a color to match a customer supplied sample.
- D. Options:
  - 1. Opposed Blade Damper:
    - a. The heavy duty, opposed blade balancing damper shall be constructed of a minimum 18 gauge coated, cold rolled steel. The damper frame corners shall overlap and be of welded construction for added strength.
    - b. The damper shall be operable from the register face.
    - c. The damper shall be supplied fitted with a face accessible screw-type blade locking mechanism.
  - 2. Spiral Duct Mounting Frame:
    - a. The outlet shall be suitable for spiral duct mounting. The spiral duct frame shall be [galvanized steel] or [aluminum] construction.

### 2.03 High Capacity Drum Louver with Pattern Control

- A. Description:
  - 1. Furnish and install Price Model [HCD2] or [AHCD2] high capacity drum louver supply outlets of sizes and mounting types indicated on the plans and air distribution schedule.
- B. Construction:
  - 1. The outlets shall have steel [HCD2] or aluminum [AHCD2] frame construction, and extruded aluminum drum and vanes.
  - 2. The outlets shall consist of individually adjustable spread control vanes housed within a rotatable drum.
  - 3. The vanes shall be bisected by a center divider, allowing separate adjustment of top and bottom blades.
  - 4. The end panels of the drum shall incorporate spread control members to enhance pattern control.
  - 5. The drum pivot mechanism shall incorporate a positive positioning detent device to hold field adjusted drum angles of up to thirty degrees off-center. Adjustable vanes shall pivot and maintain blade setting.
  - 6. The outlet mounting frame shall be constructed of formed steel with welded, reinforced corners for added strength.
  - 7. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.

# Suggested Specifications

- C. 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 500 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 finish in a color to match a customer supplied sample.
- D. Options:
  - 1. Opposed Blade Damper:
    - a. The heavy duty, opposed blade balancing damper shall be constructed of a minimum 18 gauge coated, cold rolled steel. The damper frame corners shall overlap and be of welded construction for added strength.
    - b. The damper shall be operable from the register face.
    - c. The damper shall be supplied fitted with a face accessible screw-type blade locking mechanism.
  - 2. Spiral Duct Mounting Frame:
    - a. The outlet shall be suitable for spiral duct mounting. The spiral duct frame shall be [galvanized steel] or [aluminum] construction.

## 2.04 Stainless Steel Drum Louver

- A. Description:
  - 1. Furnish and install Price Model DLSS stainless steel drum louver supply outlets of sizes and mounting types indicated on the plans and air distribution schedule.
- B. Construction:
  - 1. The outlets shall have type 304 stainless steel frame, drum, and vane construction.
  - 2. The outlets shall consist of individually adjustable spread control vanes housed within a rotatable drum.
  - 3. The drum pivot mechanism shall incorporate a positive positioning detent device to hold field adjusted drum angles of up to thirty degrees off-center. Adjustable vanes shall pivot and maintain blade setting.
  - 4. The outlet mounting frame shall be constructed of stainless steel with welded, reinforced corners for added strength.
  - 5. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.
  - 6. The outlet shall have a mill 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 grilles and registers.

### 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 additional requirements.