**Price VD Vane 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. **Section includes**:
1. Curved Vane Diffusers
	1. **Related Requirements**
2. Section 01 30 00 – Administrative Requirements
3. Section 01 40 00 – Quality Requirements
4. Section 01 60 00 – Product Requirements
5. Section 01 74 21 – Construction/Demolition Waste Management and Disposal
6. Section 01 78 00 – Closeout Submittals
7. Section 01 79 00 – Demonstration and Training
	1. **Reference Standards**
8. All referenced standards and recommended practices in this section pertain to the most recent publication thereof, including all addenda and errata.
9. ASTM 610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
10. ASTM 714 – Test Method for Evaluating Degree of Blistering of Paints
11. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
12. ASTM D1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
13. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub
14. NFPA 90A – Standard for the Installation of Air-Conditioning and Ventilating Systems
15. UL/ULC – Underwriters Laboratories Fire Resistance Directory/Underwriters Laboratories of Canada Equipment and Materials Directory, if applicable.

**1.04 Submittals**

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

**1.06 Quality Assurance**

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

**1.07 Warranty**

1. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
2. Provide 12 month manufacturer warranty from date of shipment of diffusers.

**PART 2 – PRODUCTS**

**2.01 Manufacturer**

1. Basis of Design: Price Industries, Inc.
2. Curved Vane Diffusers: Models SCVD, ACVD, CVD
3. Fire-rated Curved Vane Diffusers: Model SCVD-FR

**2.02 Curved Vane Diffusers**

1. Description:
	1. Furnish and install Price model [SCVD – steel], [ACVD – aluminum] or [CVD – extruded aluminum] curved vane diffusers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. Diffusers shall be [steel], [aluminum], or [extruded aluminum] construction, and shall feature individually adjustable curved vanes to direct supply air in a [one-way], [two-way], [three-way], or [four-way] airflow pattern.
3. Paint Specification:
	1. Paint finish shall be (**select one**):
		1. Baked-on powder coat finish.
			1. The paint film thickness shall be a minimum of 2 mils.
			2. The finish shall have a hardness of 2H as tested in accordance with ASTM D3363.
			3. The finish shall pass an ASTM B117 Corrosive Environment Salt Spray Test for 1000 hours with no measurable creep, rusting or blistering as per ASTM D1654, D610 and D714.
			4. The finish shall pass an ASTM D870 Water Immersion test of a minimum of 500 hours with no measurable with no rusting or blistering as per ASTM D610 and D714.
			5. The finish shall have an impact resistance of 100 inch-pounds in accordance with ASTM D2794.
		2. All components shall have a custom finish in a color to match a customer supplied sample.
4. Mounting Frame:
	1. The diffuser mounting frame shall be suitable for lay-in or surface mount applications with the following frame style (**select one**):
		1. 9/16 inch wide T-bar
		2. Surface mount with curved border (**models CVD and ACVD only**)
		3. Lay-in panel concealed spline
		4. 15/16 inch wide flat T-bar (**ACVD/SCVD max size 22 x 22 inches**)
		5. Snap-in T-bar
		6. 9/16 inch wide narrow member lay-in panel
		7. 9/16 inch inverted T-bar lay-in panel
5. Options (**select all that apply**):
	1. Damper:
		1. The diffuser shall be supplied with a [coated steel] or [mill finish aluminum] volume control damper (**select one**):

**2.03 Fire-Rated Curved Vane Diffusers**

1. Description:
	1. Furnish and install Price model SCVD-FR fire-rated curved vane diffusers of sizes and mounting types designated by the plans and air distribution schedule.
	2. Diffusers shall be Fire-Rated Assemblies listed in the UL, Underwriters Laboratories Fire Resistance Directory and in the ULC, Underwriters Laboratories of Canada Equipment and Materials Directory.
	3. Diffusers shall meet UL time versus temperature test criteria and NFPA 90A requirements.
	4. This design is intended for use in an exposed grid suspended ceiling (T-bar Lay-in) with up to a three-hour rating and must be installed in accordance with the installation instructions.
2. Construction:
	1. Diffusers shall be steel construction, and shall feature individually adjustable curved vanes to direct supply air in a [one-way], [two-way], [three-way], or [four-way] airflow pattern.
3. Paint Specification:
	1. Paint finish shall be (**select one**):
		1. Baked-on powder coat finish.
			1. The paint film thickness shall be a minimum of 2 mils.
			2. The finish shall have a hardness of 2H as tested in accordance with ASTM D3363.
			3. The finish shall pass an ASTM B117 Corrosive Environment Salt Spray Test for 1000 hours with no measurable creep, rusting or blistering as per ASTM D1654, D610 and D714.
			4. The finish shall pass an ASTM D870 Water Immersion test of a minimum of 500 hours with no measurable with no rusting or blistering as per ASTM D610 and D714.
			5. The finish shall have an impact resistance of 100 inch-pounds in accordance with ASTM D2794.
		2. All components shall have a custom finish in a color to match a customer supplied sample.
4. Damper:
	1. The diffuser shall be supplied with a galvanized steel, non-adjustable, butterfly-type ceiling radiation damper.
5. Thermal Blanket:
6. The diffuser shall be externally wrapped with a non-asbestos thermal blanket.
7. Mounting Frame:
8. The diffuser mounting frame shall be suitable for lay-in or surface mount applications with a 15/16 inch fire-rated T-bar frame style.
9. Options (**select all that apply**):
10. Volume Control:
11. The diffuser shall be supplied with a steel volume control damper that is room side adjustable with an allen key for balancing.
12. Fusible Link:
13. The diffuser shall be supplied with a fusible link rated for (**select one**):
	* + 1. 165 degrees Fahrenheit.
			2. 212 degrees Fahrenheit.

**PART 3 – EXECUTION**

**3.01 Examination**

1. Verify that conditions are suitable for installation.
2. Verify that field measurements are as shown on the drawings.

**3.02 Installation**

1. Install in accordance with manufacturer’s instructions.
2. See drawings for the size(s) and locations of diffusers.

**3.03 Field Quality Control**

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

**3.05 Cleaning**

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

**3.06 Closeout Activities**

1. See Section 01 78 00 – Closeout Submittals for closeout documentation requirements.
2. See Section 01 79 00 – Demonstration and Training for additional requirements.