**Price RVD Radial 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. Radial 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. ASHRAE 70 – Method of Testing the Performance of Air Outlets and Air Inlets
10. ASTM 610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
11. ASTM 714 – Test Method for Evaluating Degree of Blistering of Paints
12. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
13. ASTM D1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
14. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub
15. NFPA 90A – Standard for the Installation of Air-Conditioning and Ventilating Systems
16. UL/ULC – Underwriters Laboratories Fire Resistance Directory/Underwriters Laboratories of Canada Equipment and Materials Directory

**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 airflow, static pressure, 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. See Section 01 60 00 - Product Requirements for additional provisions.

**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. Radial Vane Diffusers: Models RVD, RVDAL, RVDSS, RVDLT
3. General:
	1. The radial vane diffuser shall be supplied to deliver a 360-degree radial, horizontal air flow pattern. Radial slots at the diffuser face shall produce a high induction vortex resulting in rapid mixing and excellent uniformity of temperature in the conditioned space.

**2.02 Radial Vane Diffusers**

1. Description:
	1. Furnish and install Price model (RVD – steel) (RVDAL – aluminum face) (RVDSS-stainless steel face) radial vane diffusers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. The square diffuser face panel shall be (coated steel) (aluminum) or (stainless steel) construction and shall consist of a radial pattern of air slots and fixed horizontal deflectors.
	2. Diffuser face shall be suitable for t-bar ceiling mount applications.
	3. Diffuser ceiling module size shall be 24x24 inches (600x600 millimeters)
	4. Optional 24-inch (600 millimeter) round diffuser face panel shall be coated steel and shall be suitable for surface mount applications.
	5. The diffuser shall include a round coated steel plenum chamber with a top mounted round inlet collar. Plenum shall be mill finish.
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.

**2.03 Low Temperature Radial Vane Diffusers**

1. Description:
	1. Furnish and install Price model RVDLT low temperature radial vane diffusers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. The square diffuser face panel shall be (coated steel) (aluminum) or (stainless steel) construction, and shall consist of a radial pattern of air slots and fixed horizontal deflectors.
	2. Diffuser ceiling module size shall be 24x24 inches (600x600 millimeters)
	3. The diffuser shall include a round coated steel plenum chamber with a top mounted round inlet collar. Plenum shall be mill finish.
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. Insulation:
	1. The diffuser plenum shall be factory insulated externally with ¾ inch foil face insulation which meets the requirements of UL 181 and NFPA 90A. All seams and joints shall be sealed with coated cloth tape.
	2. The unit shall be designed and verified by test to prevent condensation from forming on the surface of the unit at 40 degrees Fahrenheit supply temperature and ceiling plenum conditions of 78 degrees Fahrenheit and 60 percent relative humidity. Units shall be tested in accordance with ASHRAE 70.
5. Mounting Frame:
	1. The diffuser mounting frame shall be suitable for lay-in or surface mount applications.

**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.